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Exp Farm

THE FARMER'S ADVOCATE

AND HOME MAGAZINE

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* AGRICULTURE, STOCK, DAIRY, POULTRY, HORTICULTURE, VETERINARY, HOME CIRCLE.*

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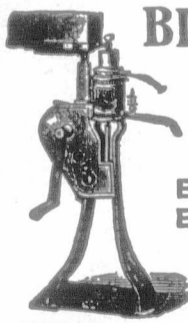
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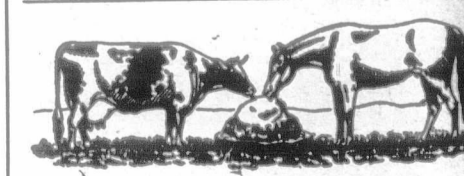
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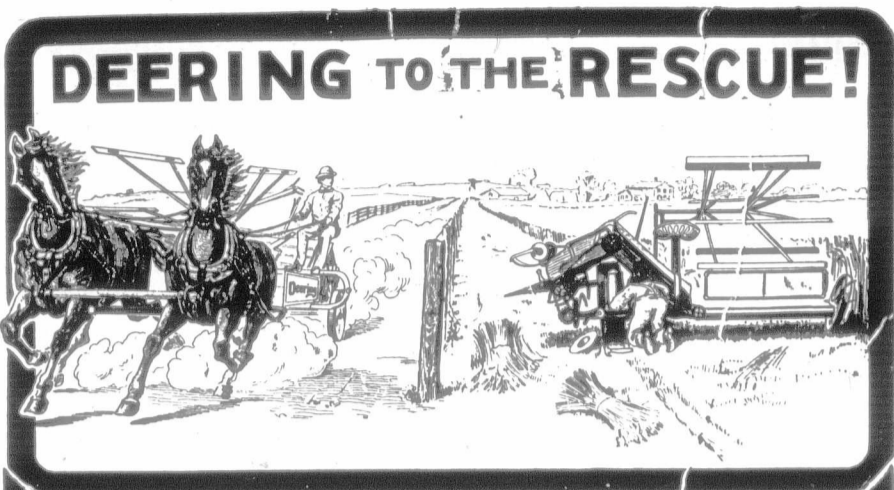
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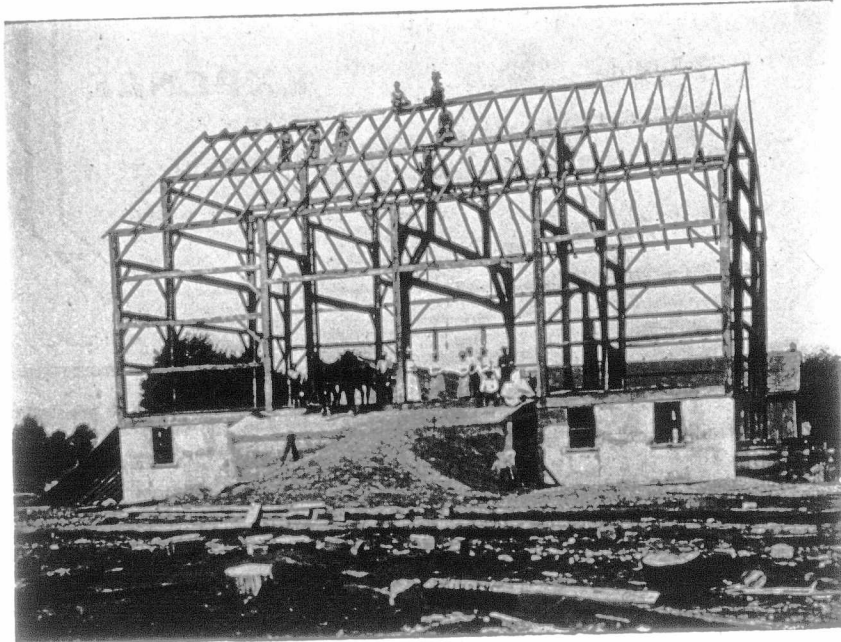
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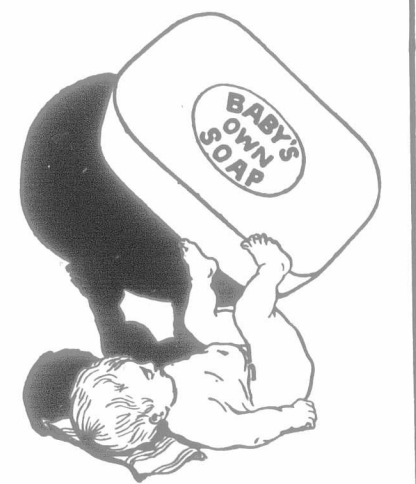
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ADVERTISE IN
THE FARMER'S ADVOCATE.

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"PERSEVERE AND SUCCEED."

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No. 547

EDITORIAL.

The X-rays in Bovine Tuberculosis.

J. V. Laddey, D. V. S., of New Jersey, writing in the Journal of Comparative Medicine and Veterinary Archives, states that the very slow and, in some respects, often impractical way of examining cattle for tuberculosis by means of the tuberculin test led him to experiment with the X-rays as a feasible means of detecting the disease in the living animal. He announces that he arrived at satisfactory results. The X or Roentgen X-rays were the discovery of Prof. Roentgen, of Germany, a couple of years since. In this means of investigating a body, what is called the Crooke's tube, actuated from a storage battery or other source of electricity through a Ruhmkorff coil, is placed on one side of the body. The rays are allowed to fall upon the body, or the part of it to be investigated, and on the other side upon a quick photograph-plate in its plate-holder, which is exposed to the rays for a time. The rays pass through the soft tissues freely, but not through bones and other substances. Hence a shadow of these obstacles appears upon the plate. Dr. Laddey states that in his experiment the infiltrated calcareous matter, which it seems already exists in the early stages of tubercular lesions, prevents the X-rays from passing through, thus causing a shadow, or opacity, to appear on the photograph. The examination was made in a dark booth erected for the purpose, and a twelve-plate static machine to generate the electrical current. The examination was made on both sides of the animal. An assistant manipulated the "Crooke's tube" on one side of the animal, so as to have it directly opposite the fluoroscope, through which the cow was examined on the opposite side. The first subjects were four thin cows, which were selected because they were thought to be tuberculous, or predisposed. The observations noted were as follows:

Cow No. 1.—The view on both sides showed a few undefined opacities in the posterior portion of the thorax.

Cow No. 2.—The view presented more and somewhat smaller, but less sharply defined, shadows distributed over the entire thorax.

Cow No. 3 presented a similar view, with an exceptionally dark spot in the region of the liver.

Cow No. 4 showed a clear, unobstructed view, so clear that it enabled the experimenters to see the heart in action very distinctly.

The cows were killed and inspected by Dr. Laddey and another inspector of the Bureau of Animal Industry, the post-mortem report showing in cow No. 1 tubercular areas in the lungs; in cow No. 2, generalized tuberculosis, small tuberculous lesions in the lungs, liver, and over the entire pleura; cow No. 3, tuberculosis of lungs and liver, chiefly in the latter; cow No. 4, entirely free from tuberculosis.

In the second experiment three cows in good condition, presumably healthy, were examined. They were considerably fatter than those in the first experiment, and it was observed that adipose tissue does not decrease the penetrability of the rays. Upon fluoroscopic examination, cows 2 and 3 were judged to be free from tuberculosis, but in cow No. 1 a slight opacity was noticed near the posterior of the left caudal lobe. Nos. 2 and 3, upon post-mortem, were found free from tuberculosis, and No. 1 showed, at the spot of the shadow, lesions of a chronic circumscribed

pleuritic inflammation with adhesions. He concludes that in the living animal an advanced case could not escape detection by the X-ray. As this mode of diagnosis occupies only two to four minutes for an animal, at the utmost, it would recommend itself, not only for ordinary diagnostic purposes, but particularly in ante-mortem work for meat inspection. He considers it would also be of value in diagnosing advanced cases of tuberculosis when the tuberculin test failed to cause reaction. He thinks it also could be put to practical use in studying the age and progress of bovine tubercular lesions in the living animal. Whether it will ultimately turn out any more satisfactory in diagnosing this cattle ailment than the tuberculin test remains to be determined.

The Produce of Canada.

"Grown in Canada," or "Made in Canada," are fast becoming names to conjure with. "Made in Britain," or "Made in Germany," have passed into commercial proverbs, and it is indeed high time that Canadians were coming to have some conceit of themselves, of the unequalled natural resources of the Dominion, and of the capabilities of its people as agriculturists and manufacturers. A reasonable amount of self-appreciation and self-confidence will be found to be a source of very great strength to States, as well as individuals. Let our people not be everlastingly looking abroad instead of recognizing and developing merit at home. Canada tardily waited till the world discovered the genius of its brilliant galaxy of authors before appreciating them. We are not advocating any petty, parish exclusiveness, which would soon tend to dwarf the national life and industry, but a wholesome, common-sense regard for our own productions and achievements. Every school in the land, from the Atlantic to the Pacific, should be a nursery of this sort of patriotism. If we do not teach our sons and daughters to believe in our country and its great future, how can we expect others to do so. We need a stronger Canadian national sentiment. The movement of the Canadian Manufacturers' Association to educate the people in this direction is therefore a perfectly legitimate and commendable one. Other things being equal, it is only fair and reasonable that the Canadian should support Canadian enterprises where Canadian labor is employed, and where our raw material and food products are consumed. Excellent tweeds and other fabrics made in Canadian woolen mills, we are told, are sold in our cities as "English" or "Scotch"; but in Britain Canadian beeves and cheese were for years used as profitable substitutes for the British article. Nowadays, however, we find a change coming over the spirit of their dreams. Canadian live-stock products and manufactures are becoming properly appreciated in Britain. Intrinsic merit, backed up by our hearty spirit of Imperial devotion, has at last begun to quicken the inertia of the Englishman, and everywhere in their cities and towns we find enquiries for the "Canada" brand. Everywhere, and always, we must see to it that that brand stands for an honest and a high-grade article. There is no reason under the sun why Canadian products and manufactures should not be as good as any others, and the better we make them, and the more we show our appreciation for them at home, the more rapidly will our foreign trade expand and improve, and the better able will our people be to meet the strenuous competition of the day.

Consolidated Cheese Curing Rooms.

Dairy farmers in Ontario and Quebec have been interested in the recent announcement, through the "Farmer's Advocate," of the decision of the Dominion Minister of Agriculture to establish, this spring, four consolidated curing rooms for cheese, located at Brockville for Eastern Ontario, Woodstock for Western Ontario, and at St. Hyacinthe and Cowansville in Quebec. They are to be of sufficient capacity to handle the cheese from about ten small factories, and will be erected adjacent to railway stations. The cheese are to be taken from the factory when only a day or two days old, instead of being left in a warm curing room, often under unsuitable conditions, from two to five weeks. The Department of Agriculture will collect the cheese from each factory, and will cure it in the most approved manner. The charge made for the collection and curing of the cheese will be a sum equal to the value of the saving in shrinking in weight. The cheese manufacturer will be expected to pay the Department the price of first-class cheese boxes, and for that consideration the Department will both provide boxes and will box the cheese. Under this system the cheese will continue the property of the patrons of the cheese factories, and will be at the disposal of the same salesman as would be appointed by them under ordinary circumstances. The expected increased price of half a cent per pound which this system will command for the cheese, or whatever the extra amount may be, will be wholly enjoyed by the patrons of the factories contributing to these consolidated cold-storage rooms.

This action has been taken because of repeated complaints during the past two years of Canadian cheese arriving in England "off flavor" and "hard," while the great demand there is for a cheese of mild flavor and soft body, such as that produced in Cheshire, Shropshire, and Derbyshire, England, where the average summer temperature of 61 degrees Fahr., as in New Zealand—our only strong cheese competitor in the British market—where the cool climate is especially suitable for curing a mild-flavored cheese. In Canada, with its hot summer weather, the natural conditions are different, and curing temperature must be controlled. The Department of Agriculture claims to have solved the trans-Atlantic transportation problem by introducing cooled-air accommodation on ocean steamers last season, and having refrigerator-car service, the consolidated curing room is thought to be the "missing link." Summer cheese from the English and Scotch dairies sells at from 2 to 4 cents above summer Canadian cheese, and by making cheese of a softer body and curing at a lower temperature, it is expected that the Old Country product will be equalled, and at the same time our makers will obtain a larger yield of cheese from 100 lbs. of milk. There being some 3,000 factories in Canada, with an average output of some 60,000 lbs. of cheese per year, at 9 cents per lb., would equal \$5,400 per factory per annum. Hence even a small increase in value per pound of cheese made, and a saving in shrinkage under improved curing conditions, would amount to an immense sum in the aggregate.

It is hoped that the immediate indirect benefit from the establishment of these central curing rooms is that they will impart to English importers an expectation of improvement in the quality, and fully restore confidence in the per-

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DOMINION.

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manency of the Canadian trade with the old homeland. This is not an effort on the part of the Government to provide cold-storage rooms for a whole district, but a particular and special effort in four places to give an object lesson that other localities may be led to provide for themselves similar accommodation suited to their own conditions.

In the opinion of the "Farmer's Advocate," improved curing rooms will not completely remove the cause of trouble, which has its roots still lower down in the defective condition and equipment of too many factories, with their ill-smelling surroundings, slack and non-progressive methods on the part of some makers, and the carelessness of patrons in the care and feeding of cows and the care of milk. In our view, there is great need of a forward movement all along the line, and a complete system of factory inspection. It would be a distinct misfortune were we to settle down into the comfortable belief that a few Government curing rooms would relieve factory-men and patrons of the necessity for improvement. We trust, on the other hand, the present effort of the Commissioner of Agriculture will prove an incentive to our dairymen everywhere.

Mr. J. W. Steinhoff's vigorous letter in another column deserves attention. He protests against the further extension of the cream-gathering system of buttermaking, but does not state whether he makes any distinction between cream raised by gravity in deep-setting cans or by hand separators. We judge from his letter that the great trouble is keeping the cream too long upon the farm before it goes to the factory to be ripened and made into butter. There is no doubt that obnoxious flavors and an inferior product are likely to be the result. By getting the whole milk delivered promptly while still fresh and sweet, it is under the sole control of the maker and the most favorable conditions. A similar complaint has been raised regarding winter-made cheese from milk some of which is said to have been lying around in cans for three days, and sometimes five or six, before going to the factory. The subject will bear further discussion on the part of our leading dairymen in these columns. Letters on this and other practical topics should be to the point and concise.

The Ontario Agricultural College.

To the Editor "Farmer's Advocate":

Sir,—The above institution is one of which Ontario, and, indeed, Canada, may well be proud, yet self-satisfaction must not be allowed to blind us to the fact that even the O. A. C. course is not perfect or in no need of an occasional awakening. This Canadian college may be considered, for all practical purposes, the pioneer agricultural college of the continent, from whose loins have sprung teachers who have led the way in the colleges south of the line. These men have gone further when permitted to, and have been quicker to see than their Alma Mater the course of instruction best suited and most attractive to the average farmer. The attendance at the O. A. C. has increased, but not as rapidly as it should have done when compared with the more successful colleges across the line. Lack of funds is not a valid excuse to advance for the slowness in the increase of students. The fault must be, and is, that the course has not been heretofore shaped to attract the farmer. When the farmer sums up the course, much as we deplore the fact, the ethical is by him outweighed by the material. He wants to know whether the college course will enable his son to earn money more readily in the pursuit of agriculture, and unless he can see the dollar (\$) at the end of it, the son rarely gets to an agricultural college.

The live-stock end is not made as much of as it should be, and as further evidence in favor of my contention for more work in animal husbandry, I quote from the last-published report of the O. A. C., 1901, page 56, in which Prof. Day states that "animal husbandry is the most important branch of agriculture in Ontario," etc., a statement which no fair-minded man can dispute; consequently, more time should be given to the live-stock end of the course, so that students may get lots of practice in stock judging, and right here the appropriations should be liberal to enable the purchase of good stock for student work, to become familiar with the laws of breeding and general management. The Hon. John Dryden, referring a short time ago to the work done at the two-weeks' courses, stated that the instruction in horse judging was one of the most popular subjects of the lot. Horse judging has only been taken up at the O. A. C. within the last 18 months. The non-acquaintance with points of horses was the reason given in the public press for the Guelph man not getting higher honors in the international judging competition at Chicago, 1900. In 1901 we understand it was, among other things, the judging of horses that carried the Minister's son, Mr. Wm. A. Dryden, into the list of prizewinners.

Food for thought will be found in the following table, compiled from statistics furnished by the several agricultural colleges:

THE ATTENDANCE AT SOME AGRICULTURAL COLLEGES.

College.	When established.	Population of State or Province.	Courses given.	No. of students in long courses.	No. of students in short courses.	No. of students in dairy school.	No. of students at special 2-weeks courses.
Guelph.	1874	2,167,978	4 years, 2 years, 2 weeks, Dairy.	176	Included in preceding column.	75	258
Michigan.	1857	2,420,982	4 years, 2 years, Dairy.	162	75	24	
Indiana.	1874	2,516,462	4 years, 2 years, Dairy.	36	85	21	
Ohio.	1873	4,157,545	4 years, 2 years, Dairy.	86	66	50	
Wisconsin.	1886	2,000,000	4 years, 2 years, Dairy.	20	295	130	
Minnesota.	1878	1,751,395	4 years, 3 years, 2 weeks, Dairy.	26	440	116	35
North Dakota.	1890	319,146	4 years, 2 years, Dairy.	20	200	30	
Illinois.	1863	4,500,000	4 years.	200			
Iowa.	1869	2,231,853	4 years, 2 weeks, Dairy.	400		150	300

It will be noticed that the total attendance in two colleges, Guelph and Iowa, is greatly increased by the large attendance (which, by the way, evidences the popularity of the step) at the two weeks' special course in stock judging, etc., given by those institutions. The number of students given in the long course at Guelph is 176, of which number about 20 or 30 complete the four years; the remainder drop out at varying periods, the majority of whom probably take the associate diploma given at the end of two years. Nearly all the agricultural colleges give special attention to their long course (the one of four years' duration), and in them students drop out from time to time without completing the four

years, thus proving that the short course (of two years, or thereabouts) suits the farmers' pocket and time the better, and therefore it must be considered, for the present, at least, as the most desirable course to strengthen and develop.

Attendance at any agricultural college will show that the greatest interest taken by students is in the live stock, and if there is any place where they "gag," as it were, it is when they come to grind biology, chemistry, etc. They do not see the use of such subjects, and I must agree with them this far, that in the agricultural college, the farmers' professional school, the importance of such subjects is magnified beyond their real or apparent worth to the farmer. Then, again, the farm labor system should be abolished altogether, and a certain farm apprenticeship be insisted upon to qualify for entrance. One of the most ridiculous things, to my mind, is the employment of a body of students at manual labor on the farm, calling for no particular skill, when they are sent to college to get training in subjects which they cannot very well get at home. The farm labor system is a relic of the swaddling clothes days of the college, and was part of the programme instituted to break in the wild colts who arrived from all parts of the world. That day has gone, and the interests of the Canadian agricultural student should be studied ahead of his old country and city confrere.

A perusal of the reports of the O. A. C. for the last six years shows that a steady increase in number of students can be noted, although not commensurate with the increased interest in live stock in the same length of time. The table given below shows the number on the roll for each year, but it does not show accurately the number of students in attendance at the beginning of each session. In the reports, the same students are evidently counted twice, at the beginning of the college year and the end of it; i. e., in April and October, judging from the information given by the table of attendance at the various colleges.

	Students in general course.	Students in dairy course.
1895.....	150	100
1896.....	168	69
1897.....	212	63
1898.....	223	110
1899.....	237	129
1900.....	259	83

In general farm management it will be found that the income is derived mainly through attention to live stock and soil cultivation, next farm dairying and shop work. Following that comes horticulture, which has to do, also, with the pleasures and luxuries of farm life, then agricultural chemistry, farm bookkeeping, bacteriology, etc., and literature, etc., last, if at all. In the two-year course, even in the four-year course,

the practical must be steadily kept in view, or the man with the agricultural-college degree may become the laughingstock of the farmers.

EX-STUDENT.

Aid for Consumptives.

In our issue of Feb. 15th we published an appeal for assistance towards the completion of the free hospital for consumptives in Muskoka from Mr. W. J. Gage, Treasurer, 54 Front St., Toronto. In aid of that fund we have received the following subscription, which has been duly forwarded:

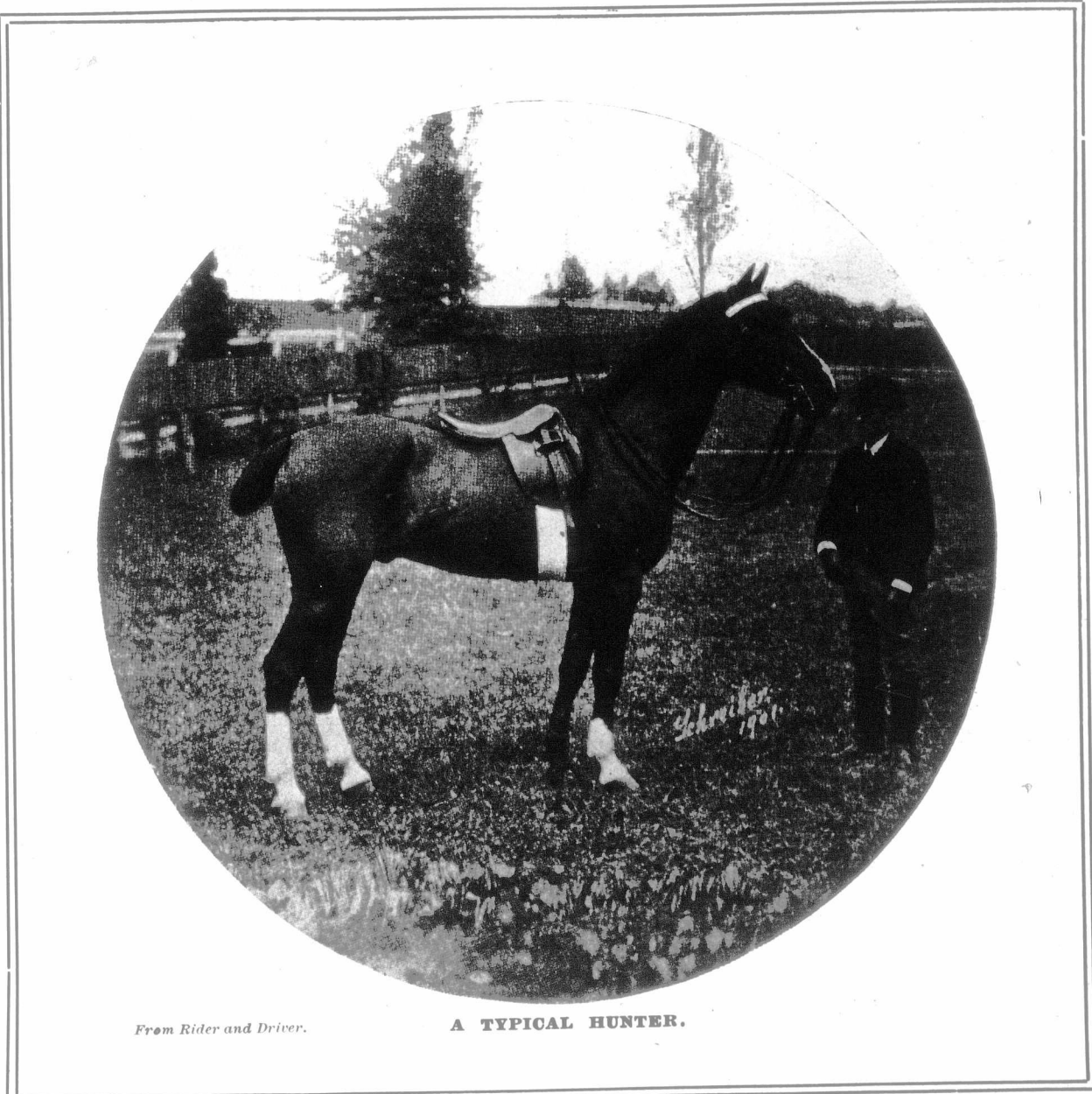
"G. C. M.," Tara, Ont.....\$10 00

HORSES.

Starting Horses to Work in the Spring.

As the time is near when horses will be taken to the field to do a day's work, a few remarks upon the subject may be timely. Some horses have been worked more or less all winter, and hence are in shape to continue their labors, but others have been idle, or comparatively so, for months, and it is of those we wish to speak. Horses should be gradually prepared for regular work by being given regular exercise and having their grain ration gradually increased, but in many cases these precautions are not observed, and in such cases it is unreasonable to expect them to go out and do a full day's work at first. All will admit that the grain ration of a horse should be in proportion to the amount of work performed. At the same time, experience teaches us that violent changes in the food given is productive of digestive derangement, even though the labor performed be proportionately increased; hence it is dangerous, where a horse has been idle and fed accordingly, to suddenly give increased rations and increased labor. Not only is there danger of digestive troubles on account of the violent change in food, but the shoulders, being unaccustomed to pressure by the collar, are very liable to become scalded and sore, and hence the utility of the animal greatly decreased, if not for a time entirely suspended. In such cases it is better to go slowly, to be satisfied with a small amount of work for the first few days. The amount of grain given should be gradually increased, and when the team is taken to the field it should be worked gently. It is necessary to see that the harness, especially the collars, fit properly, and that the bearing surface is perfectly clean. After going a few rounds, whether to plow, cultivator, seeder or harrow, the team should be allowed to stand for a few minutes and the collars lifted forwards on the necks, in order to allow the air to circulate upon the shoulders, and thereby cool them. It is also good practice to hand rub the shoulders in order to loosen the hair that has become more or less matted. Then, before starting, the collars should be lifted back to position, care being taken that none of the hair of the mane is left between the shoulder and collar. This rest should be given frequently the first day or two, gradually becoming less frequent and of shorter duration day by day, and the food proportionately increased. The harness should be taken off every time the horses are brought to the stable, even for a short time. The facing of the collars should be cleaned daily, and if the weather be warm, the shoulders should be well bathed with cold water two or three times daily. If either from a compression and flattening of the collar or a lessening in the size of the muscles of the shoulder the collar become too large, a sweat collar should be used or a proper-fitting collar substituted. In this way the shoulders gradually become toughened without soreness or scalding, and the general muscular and respiratory systems become accustomed to performing their increased functions; the digestive system also acquires greater force without suffering, and the horse is soon able to do a full day's work; while if too much haste be made at first, the shoulders become sore, and will give more or less trouble during the whole season and be a source of agony to the horse and annoyance to the teamster. The horse should be well groomed twice daily and be allowed water as frequently as convenient. Many claim that horses should not be allowed water after a meal. There are some that will suffer from digestive trouble if water be given shortly after eating, but, with rare exceptions, the practice is safe, and, especially in warm weather, an animal is thirsty after eating, and it is well to allow him to quench his thirst rather than take him to the field and work him four or five hours in this state. A horse, in this respect, is like his driver: when he is thirsty he wants a drink, and, with few exceptions, should have one.

Many horses have long, heavy coats of hair in the spring, and do not shed readily. Such will perspire very freely, and on account of the quantity of hair will remain wet for a long time. In such cases it is advisable to clip. It will be found that a clipped horse will perform his work with much more ease and on less food in warm weather than one with a long coat. Clipped horses require greater care in regard to clothing and exclusion from drafts if the weather should become cold, but they are much more easily groomed and perspire less, and hence will do better if properly looked after. "WHIP."



From Rider and Driver.

A TYPICAL HUNTER.

The London Horse Shows.

These shows are all but over at the time of writing. The Shire men are to be congratulated on the magnificent display of animals of that breed which they gathered together. Basking in the sunshine of the royal favor, and the pet of "society," as the Shorthorn once was, the Shire horse is at present in great vogue. The show was favored with the presence of the Prince and Princess of Wales on the cup day, and the King himself was present on the day following. A preposterous story has gone the round of the press concerning the alleged narrow escape of the Prince and Princess through the zeal and energy of the champion stallion, "Stroxton Tom." Having been an eye-witness, I can certify that their Royal Highnesses were in no greater danger than anyone is who visits a horse show and enters the ring when the horses are being paraded. One of the illustrated papers here publishes a wholly imaginary sketch of the scene, which was indeed no scene at all, and, so far as I am concerned, the result is to make me hereafter mistrust all sketches of a like nature. Mr. Forshaw, who owns the champion horse, has long been known as one of the high-class horses. Like so many others of the best judges in England, he began with Clydesdales, one of the first horses he ever owned being Ben Nevis 1066 in the C. H. S. B. It was also from him that the famous horse, Royal Exchange, which Mr. Beith took to Canada many years ago, came. Since the Shire Horse Society was started there has been no more constant exhibitor at its shows than Jimmy Forshaw, and although he has waited long, he has come to his kingdom at last. The Shire horse at present is a much better cart horse than he was twenty years ago. But he still lacks the suppleness of joints and clean, active gait of the Clydesdale. He is, as of yore, the big, slow-moving wagon horse, but undoubtedly a much sounder horse than he was when the Shire Horse Society began its work.

Hackney men have had a good week, but it cannot be said that the sun shone on their show, as it did on that of the Shire Horse Society. In fact, in no sense could the Hackney show be classed as other than simply an average event of its kind. The horses were a capital lot, and the mares were possibly better, but there were few new faces of any outstanding merit, and the best animals were clearly those with which the public have for several years been familiar. Sir Walter Gilbey, Bart., had deservedly champion honors for stallions with the grand horse, Royal Danegelt, while a son of the same horse, the four-year-old Bonny Danegelt, was reserve. Sir Walter also secured the junior female championship with Merry Dorothy, own sister to Bonny Danegelt, so

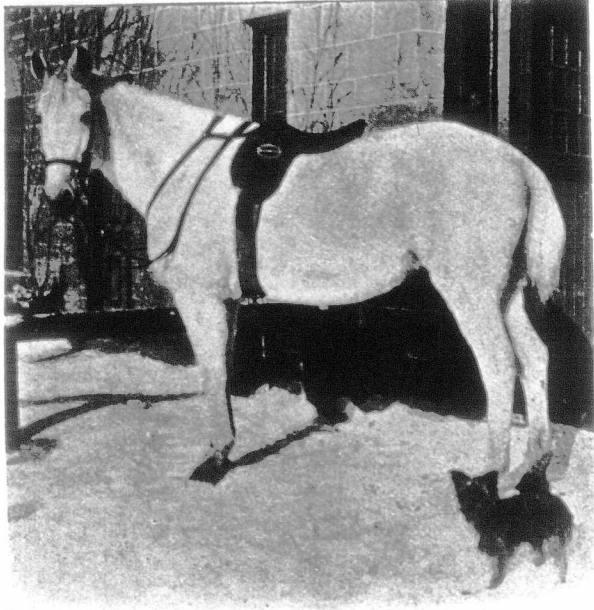
that Royal Danegelt as a sire made quite a record for himself. He easily won the Produce group prize as sire of three stallions. His son, Danegelt Royal, won the junior stallion cup. The supreme honors for mares all came to Scotland. Mr. Charles E. Galbraith, Terregles House, Dumfries, who owns one of the finest Hackney studs in the world, secured the supreme honors with Rosarene, and reserve with Rosadora, the former four and the latter five years old. Both mares are daughters of the great champion horse, Rosador, and as the former has been twice champion, she cannot enter the lists for that honor. "SCOTLAND YET."

Importing American Scrub Horses.

In Parliament, at Ottawa, last week, on motion to go into supply, Mr. N. Boyd, M. P. (Macdonald), brought up the question of the low rate at which American horses can be brought into Canada. The minimum valuation was \$15, and for some years very inferior horses had been imported not only into the Northwest and Manitoba, but also into Ontario and eastern Canada. It was most unjust to the western horsemen, who had imported the best blood in England or Scotland to improve their stock. Nearly all the diseases in horses had been traced to these inferior animals. The view of the western horsemen was that the minimum should be placed at least at \$75 to \$100. Mr. John Charlton said there had been complaint in Western Ontario about the importation of these inferior ponies, which the farmers regarded as a calamity. He asked the Govern't to fully investigate the subject and put a stop to this importation.

Mr. Walter Scott, M. P. (Assiniboia West), read an extract from the last report of the Commissioner of Agriculture for the Territories, in which it was said that 6,000 horses were imported last year at an average valuation of \$20. The Commissioner suggested a minimum valuation of \$40 or \$50. Mr. Scott did not ask for such an increase from a protectionist standpoint, but for the purpose of preserving the quality of the horses. The principle was the same as that on which the prohibition of importing pernicious literature was based, and \$50 he thought a fair minimum. Mr. Gilmour and Mr. Osler endorsed the suggestion.

Mr. Gilmour, East Middlesex, expressed his gratification that the subject had been broached, as he had intended bringing it up himself. Something should be done to correct an evil which he was personally aware existed in the West. To enforce his argument Mr. Gilmour read from the report of Commissioner Perry, of the Northwest Mounted Police, a strong remonstrance against the wholesale importation of this inferior stock from the south, many of the animals being discarded, and many of them smuggled in.



"Duster."

(SOUND AT 26.)

Grey mare, foaled 1876, by Henry Clay, by Whalebone, by Lexington; dam by Imported Sir Tatton Sykes; 16 hands, weighs 1,200 lbs. This mare has been the property of her present owner, J. H. Reed, V. S., of Guilph, since she was five months old, and has been in constant use in both saddle and harness since the spring of 1882. She is an excellent harness mare, but excels in the saddle, and has done a great deal of cross country work with owner (who rides at 215 lbs. up). She is up to any weight, and has never been known to make a mistake in the hunting field, and was always close up at the finish; generally first. She is as sound to-day and has as much ambition as she had as a six-year-old. She has won many red tickets in the show-ring, and was retired at 20 years old, after winning in good company for performance over hurdles. Though all others go wrong, the old grey mare is always ready for either harness or saddle.

Have Horses' Mouths Examined at Regular Intervals.

To the ordinary person, it probably has not yet occurred that horses need an examination of their teeth at certain intervals.

Many a time has the horse-owner noticed the presence of unmastered grain in the dung, and probably has dismissed the affair with the statement that the horse bolts his food, and to remedy the matter mixes bran with the grain, a very useful adjunct, or else gets a few pebbles and puts into the feed box. The trouble is not remedied, however.

If the teeth are examined they will be found to have one of the following irregularities: long points of the outer edge of the upper row of grinders, or on the inner edge of the lower row, a hollow, decaying grinder or a broken one, or one longer than its fellows. A horse with the above irregularities will pass his grain feed through him unchewed, will fall away in condition, will drop quids of hay out of his mouth, or let water fall out when drinking, and if a road horse, may turn out a side puller or go up on the bit in a bad manner. With any of the above troubles the veterinarian is needed, and needed badly, so that food may be saved, the animal's strength and health be improved and bad driving habits avoided. In this connection we do not advise any farmer to undertake the filing of his horse's teeth. Such work requires the services of a man who knows more than the mere fact that the teeth need filing (floating, as it is termed in the profession). Probably one of the worst fakers now extant is the travelling so-called horse dentist, who, in nine cases out of ten, leaves the mouths in rather worse shape than they were previously. The horse-owner's responsibility in the matter ends when, on recognizing the symptoms already mentioned, he takes the suffering brute to the qualified veterinarian. The wise horse-owner will contract with his veterinarian to keep his horse's teeth in shape by the year, and thus provide for at least a yearly examination. Such an examination is a money-making procedure for the man who keeps horses for either work or pleasure. It is important that the teeth of farm horses be examined, and, if necessary, be treated before spring work begins.

STOCK.

Our Scottish Letter.

Still the main topic is the bull sales, and since last writing, the red, white and roans have had their innings, and to some purpose. Great sales have been held at Perth in the north and at Birmingham in the south, and throughout it has been a case of the Aberdeen Shorthorns first, and the rest nowhere in comparison. It is to be noted that the spring bull sales of Shorthorns are not quite parallel with the same sales of Aberdeen-Angus cattle. The pick of the young bulls from the latter breed are sold in spring, but as all the world knows, the bull calves of the two great Shorthorn herds in Scotland—Collynie and Uppermill—are sold in autumn. It would therefore be futile to contrast the two breeds on the basis of the spring bull sales. The highest individual price for a Shorthorn young bull this season has been recorded at Birmingham, where Mr. Maclellan, the well-known South American buyer, gave £294 for Highland Chief, a yearling bred by Lord Lovat in his famous herd at Beaufort Castle, Beaulieu, in Inverness-shire. This bull, sired by Royal Star, was not placed very high in the prize-list, but he made four times the price of the first-prize winner in his own class. The highest price at Perth was made by Sir John Gilmour of Montrave, Bart., who got £152 5s. for one also placed rather far back in the prize-list. His buyer was Captain Graham Stirling, of Strowan, Crieff, who has bred or brought out some of the greatest bulls seen during recent years. By far the best average at Perth was made by Mr. James Durno, Jackston, Rothie-Norman, one of the shrewdest and most capable of all the Aberdeenshire farmers. He has good cattle, and manages them splendidly. He got no less than £97 2s. 6d. of an average for four young bulls. This is capital business. Sir John Gilmour was the most extensive exposé at Perth. He sold nine yearling bulls at an average of £38 5s. 4d. Mr. J. Douglas Fletcher, of Rosehaugh, who has an exceedingly good herd, made an average of £46 16s. 7d. for five, while Mr. Graham, of Redgorton, Perth, made £67 8s. 2d. for four. Mr. James Merson, Craigieville, Huntly, the owner of last year's Highland champion, Choice Goods, sold eight at an average of £44 9s. 10d. Lord Lovat had the second best average, selling three at £74 18s. All of these herds are strong in Cruickshank blood, and, indeed, Shorthorns are nothing without this. About two dozen head purchased from the Royal herd at Windsor are being shipped this week to Buenos Ayres. The opening of the Argentine and Uruguayan ports has undoubtedly given a fillip to the Shorthorn, and big trade is the result.

No other cattle breed but the Shorthorn has as yet, to any appreciable extent, caught the popular taste in South America. The Aberdeen-Angus has not made any impression there, and this suggests a variety of thoughts. Foreigners do not seem impressed with the potency of that breed for grading-up purposes on ranches. As cattle for stall or court feeding, they are bad to beat, but as ordinary commercial ranchers, nothing has as yet been discovered to equal the Shorthorn. No doubt somewhat of this is due to the impression that the Shorthorn makes a better dairy breed than the other. But there is a present-day danger that this feature is not receiving the prominence which it once did. Dairy Shorthorns are sometimes regarded as an inferior section of the breed, and certainly those exclusively bred for that purpose do not make the same prices as the other kind. A capital sale of the dairy class is held at Carlisle, and the prices recorded are certainly remunerative, but they do not count in comparison with prices of the beef sorts. An effort is being made by the Shorthorn society to emphasize the milking properties of the Shorthorn. It gives special prizes at certain shows each year for milking types, and no doubt this leads to an increase of interest in that side of the Shorthorn character. Many good breeding cows, however, do not give as much milk as they ought to. It is even said that some of them could not rear their own calves. This is a bad fault. A cow which milks badly can hardly be relied upon to breed regularly. In some quarters the agitation for milking Shorthorns was regarded as inimical to the Scots type. This almost seemed equivalent to an acknowledgment that the Cruickshank cattle were not milkers. It would be presumptuous in me to express a dogmatic opinion on this point. All I will say is that dairy farmers when in quest of Shorthorns never go north to look for them. Carlisle is invariably the goal wher that class is wanted.

"SCOTLAND YET."

Abortion a Symptom of, Not the Disease.

Prof. MacFadyean, of the Royal Veterinary College, Eng., and probably the highest authority on contagious diseases of animals in the United Kingdom, states that he believes contagious abortion among cattle the most formidable plague affecting the bovine. The Professor states that "from bacteriological, experimental and chemical observation, there is no doubt that there is a contagious disease of cows with abortion for its only prominent symptom." Abortion is not the disease, but a symptom of the disease, consequently it is quite possible for the disease to exist without evincing any symptoms. Clinical and experimental evidence goes to show that a cow which has recently aborted is capable of infecting healthy pregnant cows so as to induce abortion in them.

A herd free from the disease can therefore be infected by the arrival of a new bull or cow. In all such cases, especially if the animal is a pure-bred, the buyer should endeavor to find out whether the disease has been in the herd or the neighborhood from whence he intended to get the bull or cow. In any case, wherever possible, the new purchase should be isolated for a time, if from a suspected neighborhood, and the bull be disinfected. A well-known swine breeder in Wisconsin, Theodore Louis, observed this principle in the importation of new swine, and always insisted on quarantine for a certain length of time, the result being that although hog cholera raged all around him, he never lost a pig with that disease.

The practical issue so far is to show that epizootic abortion is a contagious or infectious inflammation of the womb, caused by a bacillus with certain well-defined characteristics. A cow may be infected with the disease and yet carry her calf to full term. In this lies the danger of the disease, and an explanation of what appears to be its frequently spontaneous origin. Preventive measures are, therefore, difficult to devise, and sometimes more difficult to carry out when devised. Prudence dictates, first of all, that every cow that shows symptoms of impending abortion, or has actually aborted, should be strictly isolated, and this includes the isolation of the attendant upon that cow. The extension of this principle when numbers are involved is easy. Next in importance to this isolation is the disinfection of the cow shed and everything that has been in any way connected with the aborting cow. It will also be well to sponge the root of the tail and the external genitals of each cow once daily with a strong disinfectant. What the Professor recommends is the following highly-poisonous compound: Corrosive sublimate, 2½ drams; hydrochloric acid, 2½ ozs.; and 2 gallons water. Lastly, the possibility of the abortion bacillus retaining its vitality for a considerable time in the manure should not be overlooked. Therefore, manure voided by aborting cows should not be spread on pasture to which cows will soon afterward have access.

The Cost of Improved Blood.

Very few farmers will dispute the advantage to be derived from the use of a male of one of the recognized pure breeds of cattle in preference to the bull of no known ancestry (usually termed a scrub), and yet comparatively few place a well-bred male at the head of their herds. Many excuses are advanced for not doing so: the trouble of keeping a bull, the liability of such an animal to be vicious, and the bother incident to the neighbors' visits with their breeding females, and lastly, and the one which weighs most with the man who keeps scrub stock—the cost of a pure-bred bull. At the present time hundreds of pure-bred bulls of serviceable age can be bought for \$100 to \$150, not of aristocratic lineage, perhaps, as pedigrees go nowadays, but still bulls that would do good service in improving the horned or polled stock of the farm. The get of the pure-bred are invariably worth more than the get of the scrub, in calves or stockers of like age the advantage ranging all the way from \$2 to \$10 a head, and in finished heaves, \$15 to \$20. In addition, the graded-up stock matures earlier, which means money saved. As this is a question on which there may be a difference of opinion, we should be pleased to hear from our readers as to "what price can a man afford to pay for a pure-bred bull to use on a herd of grades?"

Mr. Robert Beith, M. P., Bowmanville, Ont., is reported to have sold to Mr. M. Harrison, for the Chestnut Hill Stock Farm, Chestnut Hill, Pa., the champion Hackney stallion, Robin Adair 2nd, sweepstakes winner last year at the American Horse Show at New York. Mr. Beith has also purchased from the Chestnut Hill stud the great-going stallion, Alarm, by Wildfire. Robin Adair 2nd was imported by Rawlinson Bros., of Calgary, Alberta, as a yearling, and used with excellent results on their Hackney brood mares, leaving a lot of splendid stock. He was running out with his band of mares on the ranch when Mr. Beith bought him, just eight weeks before the Pan-American Exhibition, where he won first prize, and two months later won the championship at New York, beating the Pan-American champion.

Improve the Beef Grade.

In many localities farmers sell their stockers in the early fall, and quite often they are dissatisfied with the prices realized. I wish to point out some of the numerous causes of this dissatisfaction, and, if possible, throw out suggestions which, if acted upon, will benefit both buyer and seller. If even one farmer through any of the following suggestions should make a decided move to better his own interests by improving his herd, this article will not have been written in vain, for with the improvement of even one herd, an object lesson is taught which will change, more or less, the conditions of that neighborhood for the better.

Farmers see by the live-stock journals and agricultural papers, graded market price lists, and being owners, they are liable to consider the animals they have for sale as belonging to a higher class than their merits will bear out. Thus the intending seller is apt to take one of the higher grades as a criterion, and from it deduct but a meager allowance for transportation and feed, fully expecting the whole balance as his rightful share, and plainly dissatisfied if any other bargain has to be made.

Many of the smaller farmers, and especially those of the newer sections of our Dominion, are carrying on their operations with very limited capital, and hence are handicapped in numerous ways. They may believe that it is the right thing to possess males of the very best possible type and breeding, but that belief is of no immediate benefit when the means for purchasing are not available. All the same, it is by no means necessary that each small farmer should keep a first-class male, but it is necessary, if he wishes to succeed, that whatever stock he raises should be the progeny of such. Any farmer is seriously injuring his own business who for the difference in cost of service fee makes use of the "scrub." It should ever be remembered that the sire is at least half of the herd, and when this fact is constantly kept in view, it goes a long way towards compelling serious attention to individual worth and ancestry in the selection of a sire. There is still another and stronger reason which we must advocate in favor of good pure-bred males, namely, their progeny will mature earlier, thereby oftentimes saving one year's feed and labor.

Possibly in some out-of-the-way places there are no first-class males of the desired type available. In such districts those interested should call a public meeting to discuss the best means of overcoming this difficulty. No one rule will fit all cases, but one good method would be to have a thoroughly interested man invest, and all others concerned pledge him their patronage for a length of time sufficient to warrant him fair returns for buying a first-class animal. Then, with careful discrimination, some of the poorer class of females should be weeded out, and thus a much higher standard would be reached, better prices realized, and dissatisfaction would become more nearly a thing of the past. All this time those interested would be receiving practical lessons in live-stock judging. They would soon convince themselves of the well-known fact that the persistent use of pure-bred sires of individual merit lessens materially the cost of production of beef products, and seeing this truth demonstrated would stimulate improvement.

Quality, weight and age are all taken into consideration when the graded price lists are being formed, and should an animal be lacking in any one point, he is thrown out of that class. Quality is not all, neither is weight, and supposing even both of these points are up to the standard, we have still age and distance from market to deal with ere determining the true value of any animal as ascertained by these graded price lists. That distance from market necessarily detracts from value will at once be recognized by all. Age must also be taken into consideration, for the consumer is willing to pay more per pound for beef from a well-finished young animal than for the same cuts from one of more advanced years. Again, as an animal becomes older, it requires more food to produce a pound of gain. Quality and weight, therefore, do not include all, so this important question of age demands thoughtful consideration on the part of both buyer and feeder, and on this point (clear distinction of class) a large percentage of the trouble between producer and buyer turns.

Breeding plays a very important part in the financial outcome. The well-bred bullock commands a far better price per pound than one of haphazard origin, and invariably is a more economic feeder. Careful, systematic breeding, with the block test always in view, has a marked tendency towards development of the portions of the animal which command the highest prices, and at the same time reduces in weight the portions for which the price is lower, yet maintaining a pleasing, symmetrical uniformity throughout, and not in any sense tampering with constitutional vigor. Each successive generation of the bovine kind which has been bred with this one purpose in view has proven beyond all doubt that the

standard (high as it would seem then) which our forefathers strove for has been surpassed, and that new standards, better ideals, are raised from time to time, far in advance of those of the very foremost breeders of that period; yet, as slowly and surely these are reached, others are again raised far in the van. This of itself should be sufficient to teach us the true value of careful mating, and when buying stockers this must be considered. Worth commands price. Good breeding largely ensures economic feeding, therefore quality is very necessary, even in stockers, and this quality which the consumer demands cannot be gotten by any other means than a combination of ancestry and good feeding. Like begets like: this being universally true, the improvement which is daily being made must be attributed to careful mating and judicious feeding. Any competent man when buying cattle for feeding purposes will readily pay more for a smooth, right-proportioned, growthy, good handler, with strong constitution, well-sprung ribs and good straight top and under lines, than for a much heavier one of a rougher stamp the all-important point not being present weight, but, rather, well-defined indications of marked ability to convert coarse foods into a finished product with the greatest possible gain to the owner. Both individual experience and co-operative experiments combine to prove that the well-bred animal, liberally fed from calfhood up, is an outstanding sample of the class which pays, and, as this fact is proven beyond dispute, all breeders of beef cattle should do their utmost to increase the percentage of animals of the first quality. That is the quality which yields good profits, and, as it is the profits each individual in reality wishes to obtain, per-

emasculate when quite young, and thus avoid the staggy appearance which is very objectionable. By so doing, other things being favorable, the highest market price will be obtained.

Often the weather affects our pasture: a hot dry spell scorches until there is scarcely any feed left, consequently the animals are thin and prices accordingly unsatisfactory. Constitution, bone, and, in fact, complete outfits of perfect machinery for manufacturing beef at a good profit, have been at a standstill, or worse, all summer, simply through lack of feed during, perhaps, one month. A small patch of soiling crop would have overcome this loss, and even should the season have proved favorable for pasture, and this plot not have been required for its intended use, it could economically be converted into winter fodder. So there would be no loss under either conditions and great gain under one. Try it. One of the most wasteful practices known in the beef producer's business is allowing an animal to actually decrease in weight through lack of feed. The gain was once made, but is now lost, and has therefore to be all gone over again; produced twice, yet paid for but once. Can any man expect to live by such a business? Therefore be exceedingly careful to avoid so unprofitable an error.

Often cattle are so harassed by flies that their gain in flesh is small. The wise farmer will make use of some application which will give the animals a better chance to feed and rest in peace. A very good mixture for this purpose is crude carbolic acid, one tablespoonful to one gallon of fish or seal oil; mix thoroughly and apply with a brush, rubbing in well, once a week in dry weather; somewhat oftener if the weather be showery.

Another very important point is pure drinking-water. This must be

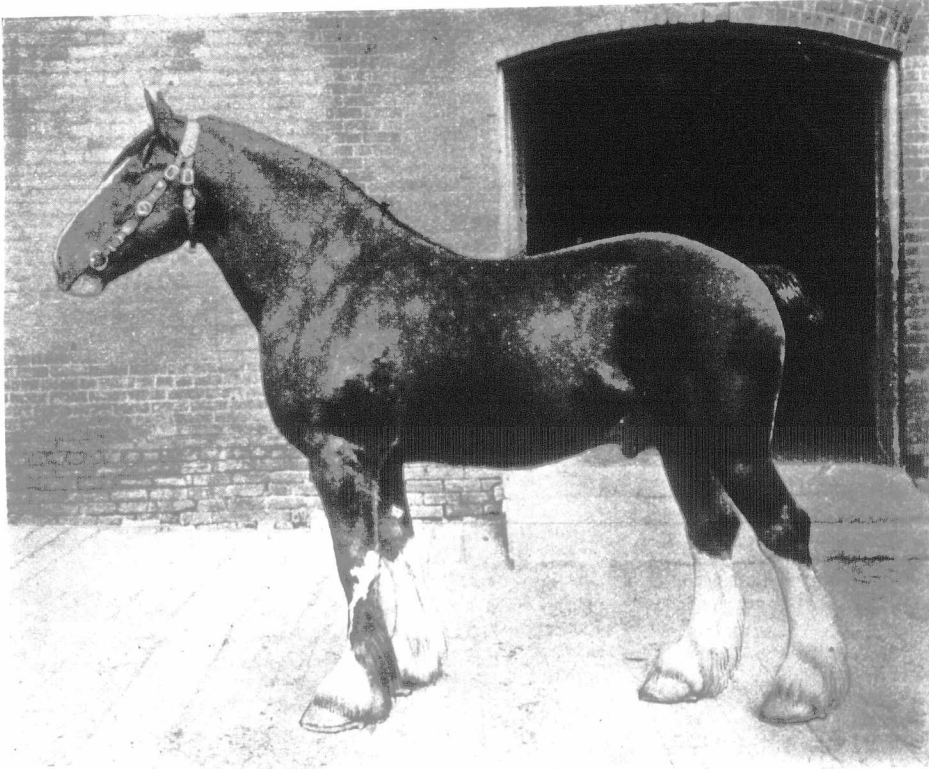
attended to or loss again will be the result. Apart from the humane side of this question (and no other can be stronger), the actual financial aspect demands in the most emphatic terms that this be carefully attended to. When the large percentage of water contained in the animal body is carefully considered, the full importance of this question is recognized.

In catering to the daily needs of the bullock, it is important that his salt-lick should be regularly replenished, summer and winter. This may seem a trifle, yet perfect health cannot exist without it, and every farmer knows that an animal must be in perfect health in order to insure the best gains.

Just a word on stables. Have them light and well ventilated. Foul air fosters disease; indeed, often starts it. Many

stables are kept warm during winter by foul air without any systematic ventilation. The building being made as nearly air-tight as possible, the breath of the animals necessarily warms the place. When the animals are turned out for a short time, as is frequently done, they feel the cold keenly. Lack of pure air leaves them in the poorest possible condition to withstand cold, and when they are exposed to it, as often happens on the average farm, it is sure to find a weak spot, if any exists, and permanent injury is the result. There are many stables which, through their poor construction, do not require any systematic means of ventilation. Tiny apertures are quite numerous, but there is no provision made for closing them when it would be a decided advantage to the comfort of the animals, and that is the time when the systematized method has the outstanding advantage. Pure air with a temperature a few degrees lower will be found far more healthful than a higher temperature when purity of air has to be sacrificed to obtain it.

Let me advocate as a cheap, yet practicable, method, the use of 2 1/2 or 3 inch tiles through the walls near the ceiling, say about 10 feet apart. Of course the distance apart will vary according to the dimensions of the stable. Then, by having a hinged-board attachment, the air supply can be regulated to a nicety. Have the hinge or the lower side, just below the tile, and a very small pulley above the tile, then by means of a cord the supply can be changed at any moment without creating a draft, for the board will naturally scatter the air upward away from the animals. This plan works very well in tolerably high



STRATHCONA.

Imported Clydesdale stallion, rising three years old. Owned by J. M. Gardhouse, Highfield, Ont. IMPORTED BY JAMES DALGETY, LONDON, ONT. (SEE GOSSIP, PAGE 272.)

sonal interest demands that animals of that stamp should be raised. Taking for granted now that all are agreed that heredity is of prime importance, let us pass on and give a few general directions, which may be found helpful in promoting growth and vigor in the young animal, and by that means help to improve, financially, a portion of the farming community.

On very many farms calves are but a few days old when they are suddenly changed from whole to skim milk, and frequently fed but twice a day, whereas they ought to have whole milk three times a day for two weeks at least, and even then the change should be very gradual, as otherwise their digestive organs are liable to become deranged, which, of course, checks the growth and weakens the system. Begin very early and add a little boiled flaxseed or oil-cake meal. Before long you may change to oatmeal or finely-ground oat chop, if such is found cheaper or more convenient. A very little fed regularly will make a marked difference upon the calf, costing but a trifle, yet building and developing both frame and system to a degree which more than amply repays cost, laying the foundation for a growthy, vigorous animal, the kind that pays, and materially hastening the time when good pasture will make a complete ration.

Feed liberally from the start, for it is a well-recognized fact that as the animal becomes older it requires more food to produce a pound of gain. Experiments along this line amply warrant the emphasizing of this statement. So it behooves farmers to carefully hasten maturity by liberal feeding, thereby producing the same finished article at a much smaller cost. It is also well to

stables. Of course, if the stables are very low, there certainly will be some draft on the animals.

Avoid undue exposure at any time; it sooner or later affects the pocket, thus making itself felt by the owner of the suffering beasts. No need to let cattle stand outside shivering, either for exercise or air. A judicious amount of exercise is good, especially for growing animals, but before they begin to huddle up and stand shivering, the exercise period is over, and the sooner they are housed again the better for all concerned. It is quite common at present with many farmers to keep their stockers unsheltered somewhat late in the fall. This unnecessary exposure always checks increase of weight, and oftentimes starts a backward tendency, which is very difficult to counteract. Many animals which under present conditions do not pay, would yield fair profits without any more cost in feed if a little more attention were given to comfort, and also a trifle more forethought to the compounding of rations.

Wellington Co., Ont.

M. D. GEDDES

Improving the Fairs.

To the Editor "Farmer's Advocate":

Sir,—I expected to have seen some discussion in the agricultural journals on the proposed improvements in the management of local and district fairs as set forth by the leading and lesser spirits at the annual meeting of the Canadian Fairs Association held in Toronto in February last. I believe it is generally admitted that there is not only much room for improvement in this direction, but urgent need for it. While some of the fairs have fortunately fallen into the hands of wise and practical directors, and been successfully managed financially, as well as in maintaining a high standard of exhibits, it is lamentably true that too many of them have retrograded not only in the quality of exhibits but also in their influence for good. This state of things has been brought about largely by the pandering to the demand of a certain class for exciting attractions, such as horse racing and circus performances, that are foreign to the true objects of an agricultural exhibition, and which draw the attention of most of the young people and many of the older away from the instructive and helpful features of a fair primarily designed for the improvement of live stock and agricultural products generally. These extraneous attractions, which were designed to help the fair associations financially, have in most cases failed in course of time to meet that expectation, while their influence has been far from helpful in any good sense.

The proposition to encourage the introduction of more educative features into the fairs, such as practical demonstrations in the manufacturing of various articles and products upon the ground, a systematic parade of live stock, and the provision of seats around judging-rings, where people interested or desirous of learning may with comfort see the awards of merit placed and study the approved types, is certainly commendable and should be strongly supported. The appointment of a superintendent of fairs may be an improvement, provided his influence is wisely used in seeking to secure uniformity in the classification of prize offerings and the introduction of useful features. The arrangement of fairs in circuits, to avoid clashing of dates and events, may, with the consent and concurrence of the local associations interested, be made helpful by facilitating the carrying of the educative features from one to the other, thereby attracting a larger attendance to all and spreading the influence of those improvements over the largest possible area. Whether amicable arrangements can be made for amalgamating existing District Fair Associations with the Farmers' Institute system is a problem which can only be solved by the effort to do so. It will doubtless be found in many instances a difficult task and one requiring the exercise of wisdom and discretion on the part of all interested, and especially of those charged with the introduction of the innovation, in order to its working out satisfactorily and successfully.

The scheme being exploited to have the power of appointing the judges vested in Government officials, an authority which has to some extent already been assumed, with, I am credibly informed, far from uniformly satisfactory results, in some respects (notwithstanding statements to the contrary by the promoters) is one of the most objectionable of the proposals that have been formulated. In no country is a better system of selecting judges in operation than here, the breeders' associations nominating a list of competent men from which selections are to be made, and fair associations having the privilege of making their own choice from these, and I am confident, from close observation of the work of judges at leading shows in Great Britain and the United States, that, as a rule, better and more consistent judging is done in Canada than in either. The statement that local fairs have not satisfactory facilities for securing competent judges is without foundation. The list of judges nominated by the breeders' associations is made up of men from all sections of the country and are available to the smaller as well as the larger fairs, and, as a rule, as good judging is done at

the local as at the larger fairs. It is true that unfortunate selections are sometimes made, but this applies as frequently to the one as to the other. There always have been and always will be cases of complaint, but is it not a fact that the most vigorous "kicking" is generally done at the big shows and the provocation as pronounced there as elsewhere? The placing of the power of selecting judges in the hands of Government officials will be liable to engender suspicion and charges of favoritism, the effect of which will be to shake confidence in the system, and this is a point that should be carefully guarded by the stockmen who are likely to be exhibitors.

The idea of placing the same set of judges on a circuit of fairs looks very well in theory, but has failed where tried and is sure to fail of giving satisfaction in practice for the reason that exhibitors who have stock or articles prepared for exhibition desire to show at a number of fairs to recoup themselves for the expense of such preparation, and as it is clear that those who are defeated under a judge at the first fair will have no chance of better success at the next under the same judge, they will go no further, and the result will be a less extensive and attractive exhibit at the following fairs, while the exhibitor who is fortunate in securing the favor of the judge at the first appearance will have a snap, whereas with a change of judges the awards might be very different in some instances, and, owing to difference of opinion and difference in condition, the later rulings might be quite as justifiable as the first. This has been proven frequently where the same animals have come in competition at Toronto and at Ottawa or London, the placing being in many classes quite different at the latter and quite as consistent. It may be claimed that this furnishes an argument against the present system, inasmuch as under the new proposal there would be more uniformity and less apparent inconsistency in the awards. There would be some force in this could exhibitors and the public be persuaded that the Government brand of judges would be infallible, but it will be difficult to dispel all scepticism on that point.

The idea suggested by a speaker at the convention that judges should be subject to examination by constituted authority and granted certificates of qualification as experts sounds very pretty, but it will be difficult to persuade intelligent stockmen that competent judges can be machine-made. They would probably have more confidence in the statement that judges are born, not made, and it may with safety be said that the best judges as a rule are those who have grown up from boyhood with good stock and had the care and handling of them. Practical stockmen have a wholesome contempt for and distrust of men claiming to be expert judges. Associations of expert judges were formed some years ago in some of the States across the line and promised to work a revolution in stock-judging. They met for study and practice on living subjects, working by means of a score card and a standard of excellence, figuring out on paper the comparative value of the various points, and by mathematical demonstration deciding, as they thought, the relative merits of the animals exhibited. They were dead sure they had reduced stock-judging to a science. They granted each other certificates of qualification as expert judges and advertised their services as such, doubtless expecting that fair associations would jump at the offer and gladly be relieved from the worry incident to the complaints of incompetent judging, as it was clear to them that figures could not lie. These men were no doubt quite as sincere in their belief that they had discovered a panacea for inconsistent judging and were doing their country a great good in placing their services at its disposal for a reasonable consideration as were the "tailors of Tooley street," who, in convention assembled, seriously issued their famous manifesto starting with the declaration, "We, the people of Great Britain and Ireland," etc.; but the experts waited in vain for the confidence of stockmen. In a few instances, fair associations run by city people gave them a trial, but their work when finished by figuring was so fearful and wonderful that they soon found their occupation gone and "none so poor as to do them reverence." One of these Yankee experts judged all breeds of cattle at a Montreal exhibition some years ago, and though he did a marvellous amount of figuring, he made a terrible mess of the work, and drew from an exhibitor the audible remark, "You can never know where lightning is going to strike." And yet there are people in this country who cannot see why so apparently reasonable a proposition cannot be worked out successfully. They fail to perceive that dealing with animal life and its various types is a widely different thing from working in wood or stone with compass and square and chisel, and that stock-judging at its best is more than a science or an art that can be acquired by deduction—that it is an intuition or natural gift developed by experience.

The idea of requiring judges of breeding stock to give reasons for their decisions is another fad that I predict will be as short-lived as that of the score card. It is about as reasonable as to ask a man to say why he loves one woman better

than another or than all others, for in many a close case in stock-judging the woman's reason, "because," would probably be as sensible and as nearly right as any he could give. One of the first and surest results of this requirement will be to disqualify some of the very best judges we have, men who know their business from long experience, and who know they know it, but who would shrink from making a public exhibition of themselves by attempting to address an audience, giving reasons for their work. Yet there are glib-tongued upstarts, whose judgment and experience is not to be compared with that of the others, who can talk by the hour, who would be glad of an opportunity to air their eloquence, and could no doubt succeed in persuading themselves they were right in their decisions whether they could convince others or not. This scheme may be useful for practice at an Institute meeting or in a college course, where young men who have not had the advantage of handling pure-bred stock may be instructed in the distinctive characteristics of the different breeds and in the rudimentary principles of judging, and where the stock to be passed upon belongs to the Government or some other soulless corporation with no feelings to be hurt, and it may possibly, to a limited extent, be adapted to the judging of fat stock doomed to the butcher's knife at an early date, but it is not reasonable to expect a man of natural feelings, who may be a better judge than the professional who places his beast second in the competition, to stand dumbly by while the judge, in his opinion, adds insult to injury by publishing to the assembled crowd faults in his animal, the existence of which he would stoutly deny were he permitted to do so, but of course the rules would be framed to gag the exhibitor and to involve a penalty for contempt of court if he presumed to give "back chat." It is bad enough to be done out of a prize you feel sure you are entitled to, without having the injury rubbed in by public proclamation, and no judge with proper feeling would want to be put in such a position where breeding stock is concerned. Fancy the owner of a stallion placed lower than he believed he ought to be, standing quietly by while the horse he held for sale or for service was publicly damned, after being defeated, as he believes, by the judge and not by the competing horse. The thing is simply impracticable in judging pure-bred stock, and even in judging fat stock, as was evidenced at Guelph last December, where it was adopted in the cattle classes; it was a dismal failure, for while the judges were capable and did excellent work in judging, though they were accustomed to public speaking, must have felt that their attempts to give reasons for their rulings were little better than a farce.

Hon. Mr. Dryden wisely counselled the convention to not attempt too many things at once, and it will certainly be well to go slowly in the introduction of some of the schemes that have been proposed. The people interested should not fail to give them full consideration and discussion before allowing them to be thrust upon them.

In attempting this work of local-exhibition reform, I have myself more faith in the slower but more natural and permanent educational processes already at work than in any revolutionary methods. I am certain it will prove necessary to so direct the movement as to avoid exciting local antipathy against centralization, on which score local agricultural societies are naturally very sensitive. One-man power in some undertakings is all right, but in a case like this it might prove all wrong and disastrous if it alienated local sympathy and effort.

STOCKMAN.

Birmingham Shorthorn Show and Sale.

(Our special report.)

The thirty-fourth annual fixture took place on March 5, 6 and 7 last, when the record entry of 611 was made. Taken all through, the average of merit and quality was fully maintained, but as is generally the case with so large an entry, there were more than the usual number of weeds present. The award list, however, very clearly indicates the opinion of the judges, which, we believe, fairly represents that of the general public, there being no fewer than 172 animals placed therein, being practically a third of the number entered. These awards went to seventy-nine exhibitors, of whom thirty-three shared in the thirty-eight cash awards, the total number of exhibitors being 167. In cows, Mr. C. W. Brierley was nearly invincible, for he won three firsts and two seconds in the four classes for females, being second in the class where he missed the premier award, this animal afterwards being sold to Mr. W. T. Garne at \$500, the winner making \$360. Mr. W. J. Hosken was leading winner in the bull class, taking two firsts and a second, Mr. J. Handley running him close, with two firsts, one of which was for his fine old bull, Lord James Douglas, the second in that class going to Earl Mauvers' Ruddy Star, by Star of morning. Mr. L. H. Holland took a first in each section, as well as a r. n. and three barren honors. Col. Sir N. Kingscote came in for a first and a second in the bull classes, and two minor honors, and Mr. W. Parkin-Moore took the

other first award. Amongst the other winners of cash prizes we may mention Earl of Powis, who took the special for best five bulls, Mr. L. de Rothschild being the r. n., Mr. J. McWilliam being a winner of a second award. Lord Lovat, who was represented by a capital lot, secured a 4th, two 5ths, and a r. n. Reference to the catalogue discloses that the following herds were also represented: Mr. J. W. Barnes' (from Cumberland) name comes in the award list; Mr. A. Cameron, from Brechin, N. B.; Mr. H. Dudding, of Riby Grove, with an entry of three capital bulls; Mr. J. Gill, Cumberland; Mrs. Grey Whittingham, Northumberland; Mr. J. Harris, Carlisle; Mr. G. F. King, Bristol, etc.

The highest price in the sale was 280 guineas, paid by Mr. MacLennan for Lord Lovat's Highland Chief. Two hundred guineas, the second highest price, was paid by Mr. Colman for Mr. Koskens' Hayle Speculator, by Royal Sovereign; dam a cow of the Waterloo tribe. He was only just over a year, but of fine quality, and won first award of £50 in the class for bulls over 10 and not exceeding 20 months. W. W. C.

FARM.

The Effect of Underdrains in a Season of Drought.

Notwithstanding the fact that the beneficial effects of underdraining are now pretty generally appreciated, there are still many farmers who consider that drains have an injurious effect if the season be very dry. This is a mistake which accounts for the lack of thorough draining in a good deal of land. Good tile drains put in at a suitable depth and distance apart have a very beneficial effect in any season. Nothing need be said regarding their effect in a wet season, but let me mention a few points in favor of underdrains in a dry season.

In the first place, the land dries more quickly in the spring, and can be worked soon after the frost is out. Consequently the crops can be got in earlier and will be more advanced when the dry season begins, and for that reason is less liable to injury from drought. Also the removal of the free water to the depth of the drain allows the plant roots to go deeper into the soil, where they are less affected by surface evaporation.

Drains remove from the soil only the free water, which is of no use to the plants. The roots absorb only that moisture which is held in the soil by capillarity, and this same force will raise more moisture from below the drain level as that above is removed by plants and by evaporation. Do not hesitate to put in drains for fear of increasing the trouble of a dry season.

Now, when the ground is drying, is an excellent time to notice where drains are most needed. If you cannot put them in now, notice what places are last to dry and mark them, that they may be drained as soon as possible.

Middlesex Co., Ont. F. T. M.

Preventing Oat Smut.

The Ohio Experiment Station gives the following directions for treating smutty seed oats:

Having the solution made at the rate of one ounce of formalin to three gallons of water, well stirred, and a gallon of solution to each bushel of seed to be treated, apply this with a sprinkling can (or sprayer) to the oats in piles on a tight floor. Grain in piles should not exceed about six bushels, and the number of piles will follow from the amount of seed. Sprinkle each pile in turn, shovelling thoroughly, knowing how much solution is applied; continue in each case until the solution tends to run out on the floor despite the shovelling. Usually a half gallon or more per bushel may be sprinkled on the first round, when the one pile is passed for a few minutes while another is handled in the same way. Upon a second sprinkling of each pile, as much solution is used as will be held; then with a third or fourth repetition the gallon per bushel may be used. After this shovel over and leave in low flat piles over night, or for not less than four hours. The seed may then be spread thin on a floor and shovelled over occasionally to dry out for drilling, or it may be sown wet if broadcasted. If in weather when proper drying of the seed is secured, the treatment of the seed may precede the time of sowing by some weeks. Seed treated in this manner is not poisonous, though scarcely suitable to be fed to horses." Formalin retails at about 50 cents per pound.

Manitoba Flour for Africa.

Mr. F. W. Thompson, General Manager of the W. W. Ogilvie Milling Company, has closed what is said to be the largest sale of flour ever made in the Dominion of Canada, being an order for shipment to South Africa of 35,000 barrels of Ogilvie's Hungarian brand. The magnitude of this order can probably be better appreciated when it is stated that it will comprise a solid shipment equivalent to ten train-loads.

A Splendid Premium.

The appreciation by the people of the "Farmer's Advocate" and its efforts to promote successful farming is only equalled by the reception accorded the premiums which are given persons who secure new subscribers to the paper. Take, for example, the farmers' pocketknife, which we offer for two new subscribers. Space is too precious to print all the letters recently received, but here is what a few of the writers say:

Richard Shuter, Wentworth Co.—"Am well pleased with the knife. First-class in every respect."

A. Stevenson, Perth Co.—"The steel is of the finest quality. I would rather have the knife than the price of two years' subscriptions."

H. C. Davison, Muskoka.—"It is the genuine knife for the farmer in the spring. In size it may be a little large to carry all the time, but the quality is the very best. My neighbors are of the same opinion as myself; and your paper is the most interesting on farming I have ever seen. The new subscribers think it is the ideal, and the Christmas number was worth the money alone."

Walter Grigg, Northumberland Co.—"It is a 'jim dandy' in every respect; surpasses my expectations. This is the opinion, also, of everyone I have shown it to. The 'Farmer's Advocate' has been in our family for three generations, and we could not do without it."

Chas. Groat, Ontario Co.—"More than pleased; just the knife for a farmer; both useful and durable. If you could insure against losing, it would not be profitable for the hardware business, as it would last a lifetime. The 'Farmer's Advocate' is a necessity in every farmer's home."

John Rome, Bruce Co.—"Splendid, strong and durable, and best of stuff in the blades. As a farmer's paper, yours leads."

R. J. McNeil, Chateauguay Co., P. Q.—"Good; size all right; shade heavier than I have been carrying; steel first-class."

J. C. Clarke, Northumberland.—"Splendid for the farmer to carry. Handy to trim the young orchard."

J. W. Hartman, Grey Co.—"Can be brought to a razor edge. The 'Advocate' is worthy every farmer's patronage."

T. B. Hisey, Simcoe Co.—"I am just 13 and go to school. I like the knife well, and my father likes your paper. My grandpa, who is dead now, took it 30 years ago."

Arthur Johnston, Grey Co.—"Have had it long enough to prove its good quality. The words of praise for the 'Advocate' from the new subscribers more than repays me for the little canvassing I did."

Adam Roth, Oxford Co.—"The blades are extra good quality. It is the correct size, strong and durable. Best of all, it keeps its appearance. Your paper contains news and information not found in newspapers. It is not a mere paper — it is a book and a fortune in itself."

Geo. Nicholson, Middlesex Co., Ont.—"Just the thing a farmer needs. I like the 'Advocate' fine."

Jas. E. Harrison, Bruce Co.—"The finest knife I ever owned, and keeps a keen edge; desirable size."

Matt Millard, Bruce Co.—"The knife has stood some severe tests first-rate. Much pleased with the Teacher's Bible also; very helpful to me in my work as a S.-S. teacher. Will try and send you some more new subscribers."

A. Cumming, Stormont Co.—"A good one. Would not be without it for \$2."

P. W. M. Jenkins.—"An ideal knife for a person of almost every occupation. Handy for any work."

Wm. Christie, Glengarry.—"Excellent; better than expected."

J. Mansfield, Carleton.—"All that could be desired in every way."

With fine weather and good roads, readers can readily secure new subscribers to the "Farmer's Advocate" and earn some of the premiums of which the recipients speak so highly.

Popular Premiums.

This is the season when readers, both young and adult, can most readily obtain new subscribers for the "Farmer's Advocate." The growing popularity of the paper with farmers is shown by the splendid increases in our subscription list this winter; also by the growing demands on our space. To meet this and carry out our determination to give our readers the most complete and practical service possible, we are compelled for this issue again to enlarge the size of the paper. Show your copy to some friend who is not a reader, and he will appreciate its worth to the farmer and the home, and subscribe. We believe in encouraging our friends to do missionary work for the "Farmer's Advocate." No other periodical offers such valuable and useful premiums. Our full premium announcement is crowded out, but we call attention to a few of its most attractive features:

THE FARMER'S POCKETKNIFE.—The run on this premium was so great as to completely exhaust the consignment received from Sheffield, Eng., where they were specially made for us. So delighted are those who have received the knife that we decided to order another lot from the manufacturer, which have now arrived. It is a superb knife, with nickel handle, and can be secured by sending 2 new subscribers for the "Farmer's Advocate."

BAGSTER'S TEACHER'S BIBLE.—A truly magnificent volume, with flexible leather cover and useful S. S. helps; retailed for from \$2.50 to \$3.00. Can be secured for 2 new subscribers. Do not miss such a privilege.

THE BRACELET AND PADLOCK.—The beautiful silver filled curb-link bracelet and padlock for young ladies' wear is giving great delight to all who earn it by sending us 2 new subscribers; sterling silver bracelet for 3 new subscribers. Both are gems.

FOUR FARMERS' PICTURES.—The agricultural and live-stock public are appreciating as never before our offer of the four masterpieces—"Canada's Pride" (draft horses), "Canada's Glory" (light horses), "Canada's Ideal" (Short-horns), and "Canada's Columbian Victors" (Ayrshires)—for only 2 new subscribers, or any two of the four pictures for 1 new subscriber. Any or all of these engravings, properly framed, make a grand ornament for the home, and are an educator, creating a love for superior animals.

A COLLIE DOG.—A choice young pure-bred collie can be secured by sending us 12 new subscribers; or one of the WINNIPEG HEATERS, (best drum ever made to save fuel and make the house comfortable in cold weather) for 10 new subscribers.

GENTS' WATCHES.—We offer a long list of watches for clubs of from 2 to 25 new names. Here are some of the most popular: Yankee Nickel, for 2 new names; Trump Nickel, 4 new names; Trump Gun Metal, 5 new names; No. 14 Silver, for 8 new names; and 7-Jeweled Elgin, in 3-ounce nickel case, for 10 new names.

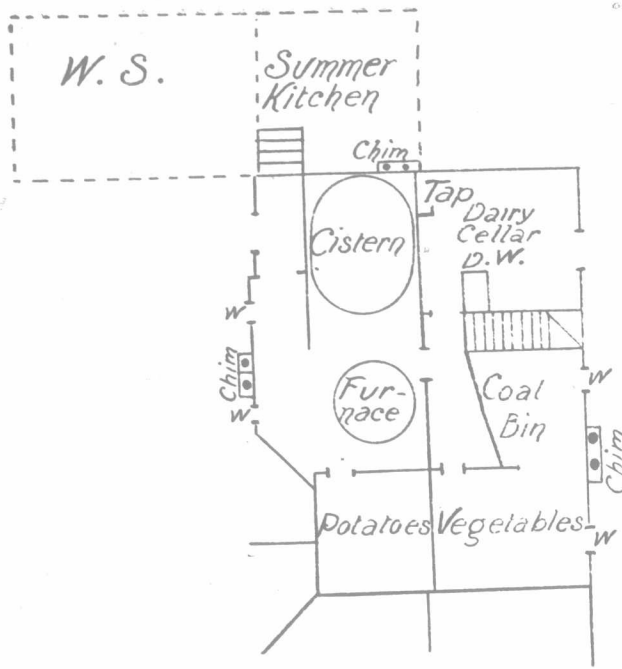
LADIES' WATCHES.—Gun Metal, Swiss Chatelaine, for 4 new names; Sterling Silver, Swiss Chatelaine, 5 new names; Nickel American O. F., large size, 5 new names; Gun Metal American O. F., large size, 5 new names; and Nickel, small size, for 9 new names.

The above are all handsome watches and good timekeepers.

BOOK PREMIUMS.—Complete list of all standard works for farmers. For titles and terms, also for complete list of watches, see page 100, February 1st issue "Farmer's Advocate."

If you need a free sample copy of the paper to help you in getting subscribers, drop us a post card at once. Address:

FARMER'S ADVOCATE, London, Ont.



BASEMENT PLAN OF MR. ROME'S HOUSE.

Sorghum Growing in the County of Essex.

I am pleased to give my brother farmers the benefit of my experience in the sorghum industry, as I am not only a grower, but a maker of syrup in a small way. There are some 97 distinct varieties of the sorghum plant, but I have confined myself to the following five, namely, (1) Early Amber, (2) Minnesota Hybrid, (3) Early Orange, (4) Red Amber, (5) Xmas Cane.

I have placed them in their order of merit, according to my success with them, as well as that of my neighbors, who nearly all grow sorghum for their own use, besides some for sale.

The Red Amber makes a better yield per acre, but a darker syrup, which, however, improves with age. The Xmas Cane makes an excellent syrup, and I have so nicknamed it, as it is a late-maturing variety and apt to be nipped by an early frost, which injures any sorghum, according to its severity, from 25 per cent. to valueless for syrup. All the others make a good quality of syrup, and are the chief varieties grown in Essex.

To grow good sorghum the nature and richness of the soil has an important part to perform, which is improved greatly by good care and cultivation. The land should be so tilled that there is a fine seed-bed, the same as is required for any hoed crop. If the soil be poor, it is not a good plan to enrich it with stable or barnyard manure the same season that the sorghum is to be grown on it. The reason for this is plain: the juice is the part used, and that comes principally from the moisture in the soil. The kind of soil adds a little to the color of the syrup. Sandy, or a gravelly sandy loam, make a nice, clear, pleasant-tasting syrup, as does also that grown on heavy clay, but the sorghum seed is a little longer in starting in a clay soil, and requires more labor to work and keep it free of weeds after it is started; the mucky soil makes the darkest syrup, but a bigger yield per acre. The time of planting ranges from about the 9th of May till the 10th of June.

The mode of planting adopted in this locality is in drills three feet apart, and with from two to four stalks in a place, one foot apart in the row, while some plant in check rows three feet apart each way, and from four to six stalks in the hill. It is slow in germinating. With moist, warm weather, favorable to the starting of small seeds, it will appear above ground in from a week to ten days. When sufficiently high so as to distinguish the rows, I begin to stir the ground with the horse cultivator. After going over the patch with the horse cultivator, I proceed with the hoe and stir around the hills and thin out to the proper number of stalks in the hill, and allow it to stool, as the labor to break off the suckers is more than the gain. When the plants get about one foot high and firmly rooted, it then grows very fast, particularly if the weather be very warm.

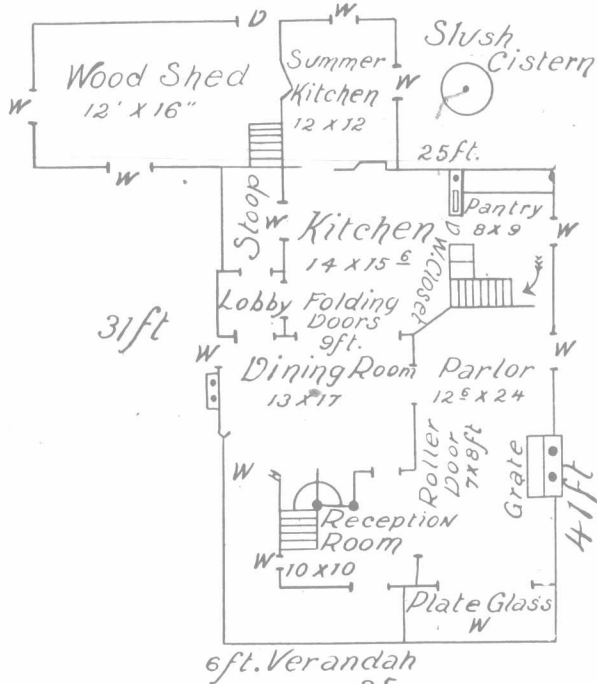
The same cultivation that is given to grow a good crop of corn will give a good crop of sorghum, and all corn-growers know how corn responds to a frequent stirring of the soil, and this also adds to its early ripening.

The seed grows at the top of the stalk, and when it passes out of the milky stage becomes hard and glossy. When three-fourths of the seed is ripe, then the sorghum is in its best stage for cutting; this is usually about the end of August, and lasts till about October. Good sorghum will reach a height of from eight to twelve feet high, and an acre of good sorghum will yield about 150 to 200 gallons of syrup. The area for the growth of sorghum is somewhat limited. Wherever Dent corn will grow and mature, sorghum can there be grown successfully.

Harvesting or cutting the crop is done by taking a sword-like flat stick of wood about 30

inches long and from 1 1/2 to 2 inches wide and about an inch thick in the center of the stick, and proceed to strip the leaves by striking them from the top of the stalk to the foot with this sword; an expert at it will take a sword in each hand and will strip a quarter of an acre a day. It is an easy and light job, and a child of ten years of age can do this work as well as a man. When stripped, topping begins; that is, cutting off the seed. This is done with a sickle or corn knife, by catching the stalks in the hill firmly in one hand, and with a stroke of the knife cut off the tops of the stalks. The patch thus gone over, cutting comes next. An arrangement like a wood saw-horse is placed between the rows, grasp the stalks, or as many as you can hold firmly in the hand, and with the sickle in the other hand cut the cane as close to the ground as you can, lifting it up as you cut it, so as not to let the cut end touch the ground, as it is a great thing to bleed, and the oozing sap of the cut end would be sure to have much dirt stick to it if allowed to stand or fall on the ground, and thus give a gritty dirty syrup. When a bundle is cut the size of an ordinary sheaf, it is tied in two or three places with twine, so as to be more convenient in handling and in loading on and off the wagon in hauling to the factory. With the leaves off it is slippery and heavy to handle.

The juice is extracted by pressure through heavy cast-iron corrugated rollers, which are driven by horse or steam power. It runs into a barrel or tank, and when enough juice is caught to fill the evaporating pans, fire is put in the arches and syrup making is then said to begin. In my factory, I have four pans, with a capacity of about 100 gallons each, which will make about 12 gallons of syrup when done, and this pan is



GROUND-FLOOR PLAN OF MR. ROME'S HOUSE.

lifted off the arch and the syrup placed in a cooler. The pan is again replaced on the arch and refilled, and this operation is repeated to the end of the season. The country factories generally use wood for fuel, some use steam, and those in the natural-gas belt use gas.

The quality of the syrup depends to a large extent on the care and skill of the maker; it will not bear neglect. When it begins to boil a scum comes upon it, which requires careful skimming, and in the finishing care has to be exercised that it does not become scorched. The price of making is 16 cents per gallon of syrup. Sometimes the farmers prefer to have it made on shares, then the maker keeps two gallons and gives his patron three gallons, or in this proportion. The syrup sells readily at 50 cents per gallon.

Essex Co., Ont. W. B. SMITH.

Experience with Spelt.

To the Editor "Farmer's Advocate":

Sir,—Re my experience with spelt last year, I will say that it was satisfactory. I sowed the day before that snowstorm, on potato and mangel ground. The heavy rain and snow water completely flooded the ground, and water lay on half of it for over a week. I expected to have to re-work and re-sow that part, as nothing could be seen when the other was quite green. However, it came up, though the ground was baked hard as a brick, and at harvest time no difference could be seen. It has wonderful stoking power, and can resist considerable wet. I fed it to horses, and they did well on it while working hard. For pig feed I mixed it with barley, peas and oats, about as much spelt as the other together; pigs grew and fattened well. I sow about five pecks to the acre. The yield was good, but not so large as last year. Cattle like the straw, as it is very soft and leafy, yet it stands up well.

Oxford Co., Ont. H. BOLLETT.

Smut Preventives.

Once again seedtime is at hand, and we would be remiss in our duty did we not remind our readers of the importance of taking preventive measures against smut in the three important cereals, wheat, oats and barley. The fact that there was practically no smut on the grain last year is no proof that the 1902 crop will escape, but it may have a tendency to make some people careless and neglect taking precautionary measures. For wheat, probably nothing is more effective than the common bluestone treatment, using one pound of bluestone dissolved in a pail of water for eight or ten bushels of wheat. The solution should be sprinkled over the seed and the grain shovelled over several times to insure that every kernel of grain is moistened with the solution. It is not always convenient to have boiling water to dissolve the bluestone, and it will not dissolve in cold water unless it be placed in a sack and suspended in the water just below the surface, when, it is claimed, it will dissolve in a few hours. The amount of bluestone necessary to make a barrel of pickle can thus be dissolved readily by suspending it in an old sack across the top of the barrel just so that all the bluestone is submerged under water. For oats, formalin has of late years come into general use, being found more effective than bluestone. A good recipe is six ounces of formalin to ten gallons of water to ten bushels of seed, dipping the seed into solution for five minutes, or even sprinkling may answer.

Formalin answers well with barley, but requires a stronger application, about nine ounces being recommended, or else it must be left to steep for ten or fifteen minutes in the solution.

It is well to treat the seed (with oats more particularly) a few days before seeding, and shovel the grain over occasionally in the interval to facilitate its drying, in order that it may run through the seeder more readily. The ordinary force-feed seed drill will, however, sow it even when damp, but the feed should be set for about a peck more seed than required to ensure a sufficient amount.

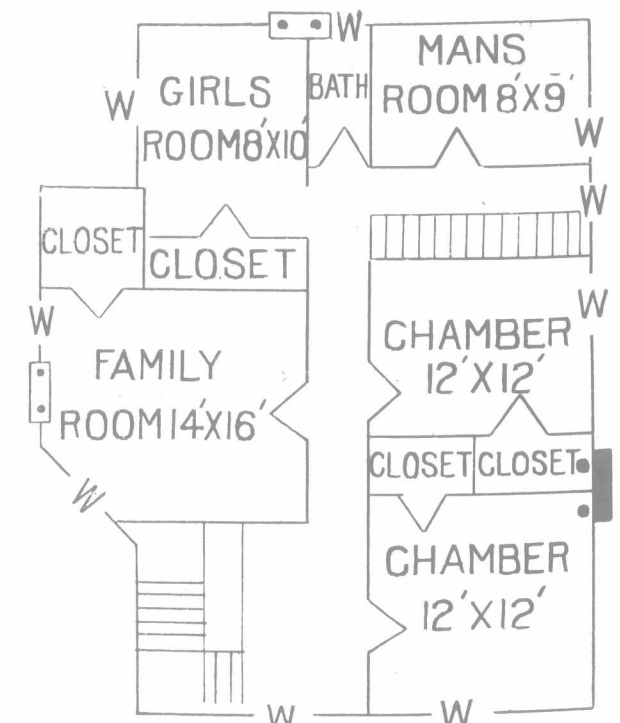
A Plea for Fair Play.

(From our Manitoba and Western Edition.)

In our issue of March 5th was published a brief report of a meeting of breeders of Polled Angus cattle held in Guelph, Ontario. It was at this meeting decided to organize a Canadian branch of the American Aberdeen-Angus Breeders' Association, and a glance at the names of those present at the meeting and forming this branch of the American Association, which is to include all Canada in its beneficent embrace, shows that it is composed entirely of Ontario men. The fact that there are more pure-bred Angus cattle in Manitoba and the Territories than in Ontario is either unknown to these Ontario breeders or the right of western breeders to recognition in an association calculated to benefit the breed throughout Canada has been overlooked.

But this is quite in keeping with the general attitude of Ontario live-stock men toward the rest of the Dominion. They have several live-stock associations with names designating that their field of action is from ocean to ocean, but whose objects are entirely confined to catering to the interests of the Ontario breeder.

The Dominion Shorthorn Breeders' Association, whose mission is Dominion in character, having headquarters located at Ontario's capital, and being managed from its inception by Ontario breeders, is not free from a charge of provincialism in its dealings. Men living down on the concessions are apt to forget that there is a West growing up.



UP-STAIRS PLAN OF MR. ROME'S HOUSE.

A Well-Planned Farmhouse.

I enclose diagrams of the different flats of my house, with measurements roughly given. It is designed from the plan of Mr. Justin's farmhouse as published in the "Advocate" in December, 1899, with some important changes, among which are the folding doors between dining-room and kitchen, doing away with the back stair landing in the man's room, by having a hallway, enlarging the parlor, putting in large plate glass in front, and extending the veranda across the front of the house. The basement, too, is much more convenient by not having the stairway enter the dairy cellar, and by having the furnace almost in the center of the cellar makes it easier to heat the house throughout. We have transoms over all the doors, both up and down stairs, which adds greatly to the appearance, as well as furnishing ventilation. The transom over the door of the summer kitchen affords plenty of light to strain milk, etc., and over the lobby door plenty of light to hang up clothes when you come in without leaving a door open or without taking in a lamp. We have above the bathroom a seven-barrel cistern supplied from eavestrough. Any overflowing is carried into main cistern in the cellar; the waste water from bath is carried down under the foundation into a slush well outside, which can be pumped out in an hour. The waste water from the cistern pump runs from sink into pipe from bath. The bathroom is fitted up into a closet-cremator odorless stove, and after it has been used by family for about two weeks, we burn out with a few shavings and chips. After it has been burned out there is about two quarts of ashes; the urine is carried to a pail on the outside of stove, which is emptied regularly. I think this closet could be improved by having the urine pipe lined with enamel, to prevent rusting, and should be half inch larger.

The pantry is fitted with cupboards, with doors top and bottom, and sufficient drawers for two kinds of sugar, salt, oatmeal, etc. There is a dumb waiter from kitchen and two closets, one for children's wraps and shoes, and the other for school books, etc.

The frame of house is 2x6 studding, boarded on the outside and bricked with the best white Winnipeg brick one inch from siding, and that inch is well filled in with mortar. On the inside, lathed and plastered on the studs, and then stripped and lathed and plastered with a three-coat finish. The kitchen has 3-ft. wainscotting, finished with British Columbia fir, with maple flooring; the rest of the house is finished throughout with cedar, oiled, except parlor and dining-room, which are grained. The house outside is painted with three coats, the best lead being used. The summer kitchen and woodshed is built of Winnipeg brick also.

The barn is 60x30 feet, and with 9-ft. foundation of concrete, with 7-ft. posts. There is a 14-ft. shed on north and south ends; the one on the north is used for chaff house, with root cellar underground; the one to the south is a buggy house and workshop.

The granary is 20x30, one and one-half stories high, with capacity for 5,000 bushels of wheat. The upper story is used for oats and barley, and on the end of granary is an implement shed 20x36 ft., with shanty roof, 9.6 side; sixteen feet front, which holds all machinery and implements.

The piggery and hennery, which is not shown in photograph, is built of concrete, one and one-half stories high, divided into four pens, with passage in the center and plenty feed room above.

The following is an exact statement of cost of materials used in the house, and the labor:

Lumber	\$1450.00
27 M brick, Winnipeg white	354.00
Hardware	125.00
Eavestrough and deck	60.00
65-barrel cistern	40.00
8-barrel cistern in bathroom	15.00
Galvanized iron	40.00
Lime	100.00
Plate glass and 6 leaded lights	65.00
Extra glass	20.00
Mantel and grate in parlor	125.00
Extra material	80.00
Cresting on deck	30.00
Cement and plaster of Paris	45.00
Carpenter's work	365.00
Brickwork	175.00
Stonework	135.00
Plastering	125.00
Lathing	40.00
Painting	220.00
Odorless cremator closet stove	30.00
Furnace	235.00
	\$3874.00
Board of men at \$3.50 per week	274.00
	\$4148.00

I have not allowed for excavating or drawing the material, as this was done in connection with our farm work, without any extra outlay.
Oakland Municipality, Man. A. E. ROME.

How the Americans Encourage Agricultural Education.

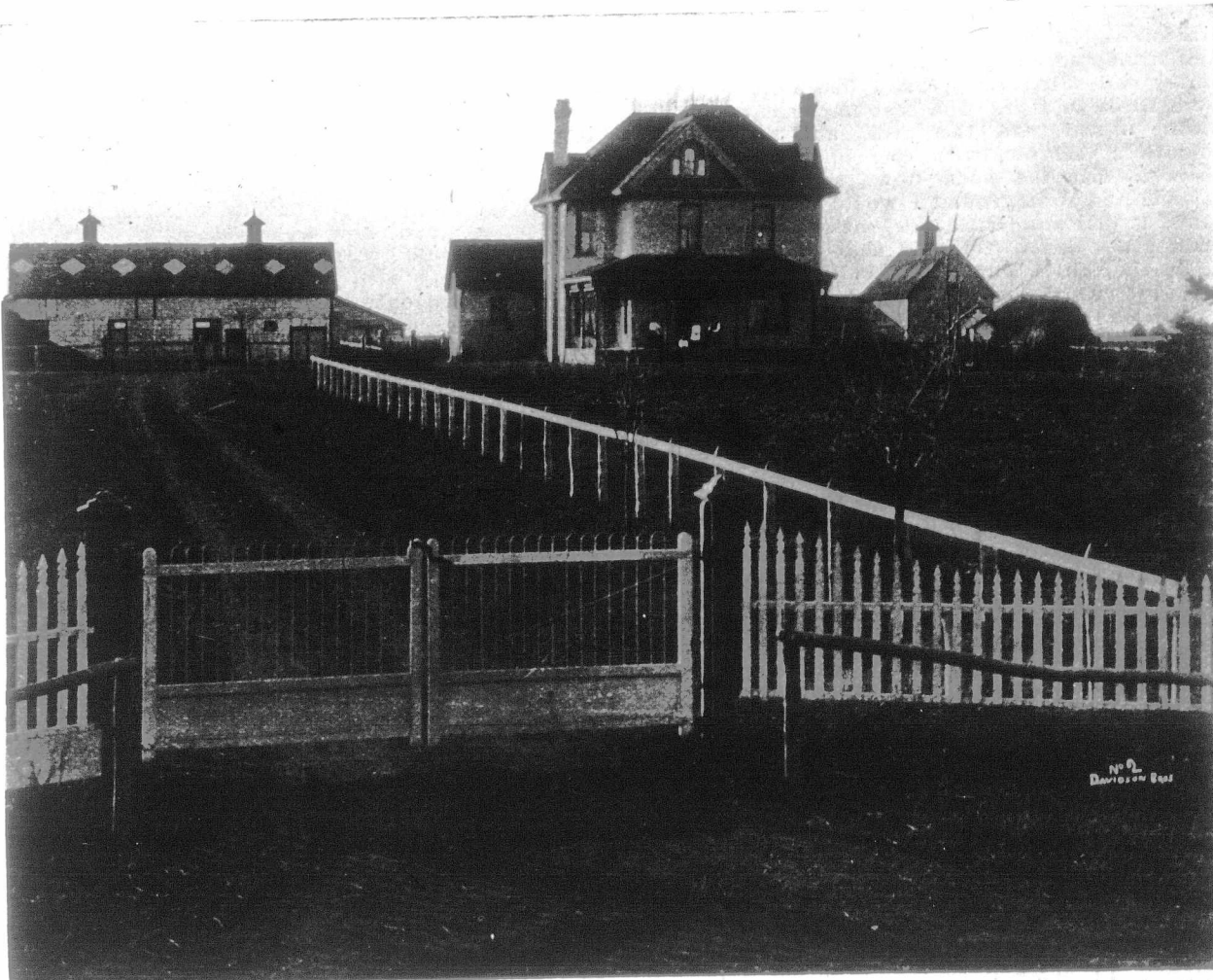
That the value of agricultural education has taken deep root in the minds of the legislators of the leading agricultural States is demonstrated by the fact that Iowa is making an appropriation of \$110,000 a year for five years, to be used for building purposes.

Successful Methods in Corn Growing.

Nothing can be better as a preparation for a crop of corn than clover sod, well manured, plowed either in fall or spring. Any kind of sod land answers very well, only there is generally more trouble with cutworms in sod a few years old. I have in mind an excellent crop of corn grown last year on tough new-land sod plowed just before planting, and without manure. But corn will do well on any kind of good ground properly worked. My own experience, owing to the rotation pursued, has been nearly all with stubble land. Corn is a gross feeder, and will make use of any kind of manure, fresh or rotted, rough or fine. The more manure the better the crop, and, unlike other grains, it does not lodge in rich places if not planted too thickly. For land plowed from sod, the disk harrow will be the best implement to prepare the surface for planting, though a spring-tooth cultivator and harrow will do good work, and for stubble land will be preferable. Much has been said of late years of the need of thorough preparation before planting, and the claim has been made that the amount of work done at that time, when it is more easily done, by so much lessens the work to be done after. I cannot accept the doctrine. The amount of work to be done after corn is up depends not on what has been done previously, but on the number of weeds present and the need of frequent cultivation of the surface to conserve soil moisture and stimulate growth, and owing to the earliness of the season, no amount of cultivation done before planting will appreciably lessen the number of weeds, and the frequent stirring of the soil necessary to secure the best conditions for growth will bring the roughest ground into fine tilth. I have no wish to excuse or recommend careless preparation, as the start that corn makes—and a good start is so important—depends largely on loose, fairly fine surface tilth; but too much, I think, has been claimed for what may be done previous to planting, and there is a possibility in the endeavor to secure a fine surface of getting the land too much compacted. To guard against the latter danger, I never use the roller on corn land. Corn roots favor loose, open ground. Certainly good crops can be grown, and have been grown, with only surface cultivation in spring, but from what I have observed, I prefer to plow or stir deeply in spring, except in the case of fall-plowed sod. I incline to the belief that the reason in part why corn does so well on sod is that no matter how it may be worked and tramped on the surface, it is always loose and open at the bottom. To have the land freshly worked before planting is very desirable. If land has lain a week after being brought into proper condition, it

should be again stirred before the seed is put in. If a fairly heavy rain comes on after the ground has been all prepared and marked, it will be better to cultivate over again and re-mark, rather than to plant as it is. As I do not roll the ground, and as it is difficult to distinguish between the scratches of the harrow and those of the corn marker when they run parallel, I harrow the last time before marking on the angle. I plant in hills 3½ feet apart each way, using a hand planter; not planting exactly where the lines made by the marker cross—as that would be putting the seed in a hollow where it would stay wet after rain, and where, on drying, a heavy crust would form—but in one of the corners about three inches from each intersecting line, and, of course, keeping always to the same corner. Place the right foot on the hill just after the planter is withdrawn, so that the earth may be pressed about the seed, thus ensuring germination even in a drought. When I say the foot on the hill, I mean not the heel nor the ball of the foot, but between the two. I plant 1½ inches deep, six grains to the hill, after the danger from cutworms is past, thinning to four, leaving always the best plants. Sometimes crows make great havoc with young corn, especially if of a flint variety, but this may be prevented by applying coal tar to the seed. This can be done by warming the corn, either on a sheet in the sun or in the oven; have the tar heated also. Pour about half a peck of seed in an old pail, dip a stick about the size of a broomstick in the tar, then stir in the corn; dip and stir until it is black enough to suit and every grain is covered, then throw in a handful of flour to dry it, and stir again. It is better to use flour than ashes or lime, as it works smoother and better in a planter. Anywhere about the 15th to 20th of May is a good time to plant corn, the rule by which the old Canadian farmers worked being not far out: "Plant when the oak leaves are as big as a squirrel's ear."

Swedish turnips, the most wholesome of all the roots, are out of favor now, except with breeders and feeders, on account of the objectionable flavor they give to milk and milk products. In growing these the best results seem to be obtained by having the land manured in fall and lightly plowed under. In spring it should, after light surface working, be again plowed, each day's plowing being the same day harrowed and rolled. This work should be finished two weeks before sowing time, so that weeds will start to be killed when land is re-worked. From the 5th to 10th of June is the time at which I have aimed to sow. Whatever the time, when it comes work up freely each day with cultivator, harrows and roller what can be drilled and sown the same day. I make drills for turnips as for mangels, 28 inches wide, sow 1½ lbs. seed per acre (one inch deep), and next day, if dry, roll with heavy roller. It is a hopeful sign for the future of farming in our country that hood crops are being more extensively grown. It means cleaner and richer farms, better stock and more money.
T. BATY.
Middlesex Co.



MR. A. E. ROME'S FARMHOUSE, OAKLAND MUNICIPALITY, MANITOBA.

Questions in Spring Cultivation and Seeding.

- 1st. What do you regard the most profitable spring grains to sow in your locality?
- 2nd. The best modes of cultivation and seeding?
- 3rd. The quantity of seed of different grains per acre to sow?
- 4th. The varieties that give best satisfaction?

SPRING GRAINS AND THEIR CULTIVATION.

The most-widely-grown and profitable spring grains in this locality are barley and oats. Spring wheat is almost unheard of, and peas are unprofitable owing to the bugs.

We follow shallow cultivation and shallow seeding if early in the season, sowing deeper as the season advances. We have more uniform results from drill seeding than the old-fashioned way of hand sowing, always applying grass and clover seed to our spring crops by means of the attachment for that purpose on all good drills.

We invariably roll the land, either at the time of seeding or shortly after the crop makes its appearance.

The rule for sowing barley here is 100 pounds per acre. Oats are sown at the rate of two bushels per acre, although a great deal depends on the variety. For instance, Joannette, being a great variety to stool, does not require more than 1½ bushels per acre.

The Mandescheuri and Improved Six-rowed barley are the popular sorts. The two-rowed and beardless have not given satisfactory results yet. In black oats, the Tartarian and Joannette take the lead, while in white varieties the American Banner and Sensation give splendid results.

Kent Co., Ont. W. A. McGeachy.

PRINCE EDWARD COUNTY SEEDING METHODS.

In replying to the four questions you have raised regarding spring crops and preparation of the seed-bed, I would say, in reply to No. 1, the best spring grains to sow in our locality are barley, oats and peas, with corn and beans for cultivated crops. I may also add that I like a mixed crop of barley, oats, peas and Goose wheat.

To No. 2, I would say that as far as possible all land for spring crops should be plowed in the fall.

A fine seed-bed should be had at any cost in the spring. When the ground is sufficiently dry to carry a team, it is a good practice to go over the surface with an ordinary harrow, then disk it up or work it up with a spring-tooth cultivator, or use both. By using a spring-tooth first and then crossing with a disk, it will usually make a fine seed-bed. If the ground becomes hard and chunky on the surface, the roller should be used in the preparation of the seed-bed. A seed-bed worked up well from two to three inches is deep enough for barley and oats; for peas, I like a little deeper, from three to four. The best implements for preparing a sod are the disk and an ordinary smoothing harrow, with the roller used between them to firm the sods down tightly. On corn stubble and root ground I would disk up without plowing and sow barley or oats, and seed down with grass seeds. On land that had been ribbed up in the fall, I should first cultivate lengthwise, and afterwards cross cultivate and level the ridges.

As to methods of seeding, unless the soil is quite dry, I would broadcast the earliest-sown grain, and all late-sown grain I would drill in. I would always drill in peas quite deeply. In drilling in barley and oats I aim to get them nicely covered with soil, but not too deeply. When sowing grass seeds with the grain I prefer to let the seeds fall in front of the drill hoes and behind the cultivator teeth, and in each case give a light stroke of the harrow to follow seeding. The order for sowing grain in the spring I like is (1) wheat, (2) oats, (3) peas, (4) barley. In using the roller I don't like to roll clay lands early unless the soil is quite dry. I would prefer to roll after the grain was up two to five inches. On light soils where rolling is necessary to level the surface and firm the soil, I would follow the roller with a light harrow or a weeder to break up capillary attraction at the surface, and thus retain as much moisture as possible. Light soils will also drift less when left a little rough.

To No. 3, I would say that I follow this rule to some extent: More seed on poor soil, and less on rich soil, consistent with having enough or not too much, as the case may be. Usually we find that in broadcasting 1½ bushels barley and 1½ to 2 bushels of oats per acre is enough. In drilling, 1½ bushels barley, 1½ bushels oats, 1 bushel spring wheat, and 1½ to 3 bushels peas (according to size) per acre is sufficient. In seed-

ing down with grass seeds I would sow a peck less of barley and oats as nurse crops. We sow from 6 to 8 pounds red clover, 2 pounds alsike, and 4 pounds timothy per acre. I recognize that if three plants are growing where only two ought to grow, that one of them is a weed.

To No. 4—In barley, the Mandescheuri; in oats, Siberian, Banner and White Cluster are preferred. In peas, all varieties have done well with us in the past, but owing to the pea weevil a much smaller acreage is being sown from year to year. On clay soils, the grass pea, sown very early and about 1½ bushels per acre, is doing very well. Leaving out the fancy varieties, the others which do best with us are the Golden Vine, Prussian Blue and Runner.

I have said nothing about corn or beans, as I didn't think your questions implied them.

Prince Edward Co., Ont. T. G. Raynor.

SPRING SEEDING IN PRINCE EDWARD ISLAND.

In answer to your enquiry re best kinds of spring grain for this locality, I would say that in wheat the Scotch and White Fife are the most profitable; of the two, the White Fife is the most popular. White Russian is a good yielder, but in our moist climate it is difficult to get it hard enough to keep well or grind out clean. Of varieties of oats, the Black Norway, White Siberian, Banner and Danish take the lead.

As to cultivation and seeding, on land plowed in the fall—and all land for grain crop should be—the best practice is to work up with disk harrow till the land is thoroughly pulverized and mellow, then smooth off with spike harrow before starting drill or seeder, then go over once with spring-tooth harrow to cover seed, and again finish with a fine cut spike tooth. There is no time lost in giving the land good cultivation.

Re quantities of seed, where hoe drills are used, 1½ bushels of wheat is about right per acre, and 2½ of oats, but with broadcast seeders, which are generally used here, a half bushel more seed of each ought to be used on ordinary land. The richer the land and the better the cultivation, the less seed will do, as it will stool more.

Barley and peas are not grown here as a general crop to any extent, but are mostly sown mixed with other grain for feeding purposes.

The most productive variety in wheat, taking into consideration yield in flour, and if sown on strong land, is the Red Fife, but for lighter lands, which are warm, the White Fife would do best. The White Russian is the poor farmer's wheat, as it is hardy and will do on a poorer soil. In yields of oats, I have found the White Siberian, which I got from the Central Experimental Farm some years ago, to do exceedingly well. Its only fault is that it takes about ten days longer to mature than most kinds. The Banner has given good satisfaction always, but many of our best growers stick to the old Norway (black), which has given excellent yields here for over 40 years.

Walter Simpson.

Cross Fertilizing.

I am trying several varieties of vegetables, grains and roots this year for the purpose of ascertaining which variety is most suitable for the land which is to grow them. I am told that it will not do to plant different varieties of potatoes, corn, oats, peas and barley side by side, as they will be sure to inoculate and spoil the identity of the seeds. Will you please let me know if this is so, and how to avoid it, if a law of nature? Would planting potatoes on opposite sides of a field with corn in the middle, and so with peas and oats, etc., accomplish my purpose and keep the seed pure for another year?

Simcoe Co., Ont. SIMCOE INQUIRER.

Ans.—The flower of one potato is more liable to be fertilized by the pollen of another than by its own, but it is impossible for one tuber (i. e., the potato as cut and planted) to affect or be affected by another in the slightest degree. In the case of the potato, crossing takes place in the flower only. Closely related varieties of corn cross very readily. Wind will carry pollen of corn long distances. Most of the other members of the grass family are very persistent to species. Oats pollinate before the flowers open, so that different species in adjacent rows keep distinct. Peas that have the same season of flowering are cross fertilized by insects.

J. D.

Kaffir Corn and Spurry.

Can you give me any information about growing Kaffir corn. Is it injurious for cow pasture, also spurry?

J. W.

Grey Co., Ont.

Ans.—Our experiences with Kaffir corn have not been particularly favorable to the crop. It has been late in maturing and small in yield. As to spurry, our experience here would not lead any man to sow it. It has not proved a satisfactory crop for any purpose, and is inclined to become a troublesome weed.

G. E. DAY,

Ontario Agricultural College. Agriculturist.

How to Secure a Catch of Clover and Timothy.

Some time ago the readers of your splendid paper, the "Advocate," had the pleasure of reading some very good articles on the above subject, and one writer said, "Do not allow the stock to pasture on them in the fall," in which I think he was quite right, for I really think there are more catches of new seeds ruined in this way than by all other causes put together.

But the writer who made this suggestion did not tell us how to avoid this mistake. It is cold comfort, indeed, to tell a farmer that if he turns his stock onto a field of new seeds he will ruin them, especially when they are about starving, after one of the dry spells we get nearly every summer, and does not tell us by what means we could have provided ourselves with plenty of nice green pasture, and thereby have saved our new seeds.

In the first place, to get a catch of seeds the land should be plowed in the fall, as I have found that spring-plowed land dries out so much through the summer that the seeds, if they start to grow at all, nearly always die from the drought before the winter sets in. Sow early in the spring on land that has been well worked and made fine. I sow twelve pounds to the acre, eight of clover and four of timothy. I think this is sufficient for land that is in good heart, but would add a little more on poorer soil. Always sow your grass seed behind the spouts, or feet, of your seed drill, because if it falls in front of them it will get buried too deeply, and may never come up. I always sow my grain with the spouts when the land is dry enough, as they put it in at a more uniform depth than when sowed broadcast, and, of course, I do all the cultivating of the land before the grain is sown, so that when the drill goes on the grain and grass seed is sown, and if the grain is well covered nothing is done after sowing but to roll it, and if not covered to suit, the harrows are run over it once, then the roller, so you see the grass seed cannot get buried too deeply.

When it is possible, I seed down after a root crop, or, in other words, I seed down the very best land I have, and by that means the new seeds get a good start in life, and there is something to nourish them in after life, and when the time comes to plow up the land again, we have a clean field and a field that is capable of yielding a good crop. On the other hand, if you seed down your poorest field the chances are you may have a poor catch, even if you succeed in getting a catch at all.

We seed down with fall and spring wheat, oats and barley, and seem to have success with all these kinds of grain, as we have only had to plow up two acres of seeds in fifteen years.

The next thing that should be observed is to leave the stubble a little longer when the grain is being cut, so that it may form a protection for the young plants during the winter months.

Now the next, and I think, the most important thing is, "KEEP THE STOCK OFF THE NEW SEEDING IN THE FALL OF THE YEAR."

Although it may be necessary after a very showery season to eat it down some, so that there will be no danger of smothering during the winter, for this purpose the cattle may be turned on for a short time, if the land be not too soft that they will track it up and injure the young plants.

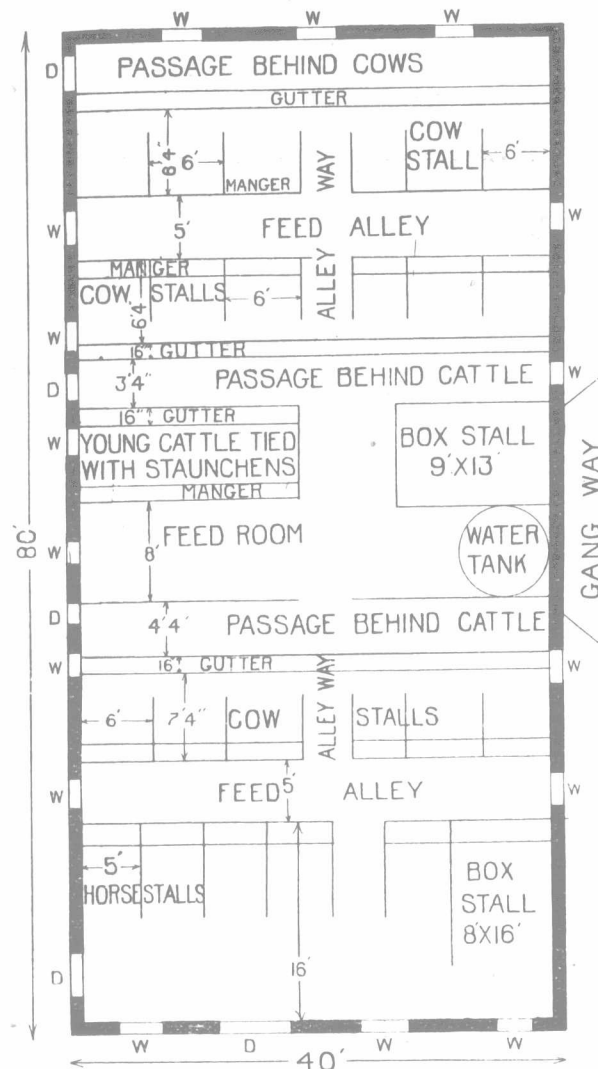
How may every farmer have an abundance of fresh green pasture for his stock without pasturing and ruining his new seeds? Buy sufficient rape seed to sow two pounds per acre on all the land you will require for fall pasture. Put enough grain to sow an acre on the barn floor, then pour two pounds of rape seed on it, mix it well with the scoop-shovel, put into your bags, and it is ready for sowing.

Of course, it will be faster to mix enough for three or four acres at once, and can be done just as well.

This is no experiment, as we have been practicing it for a number of years, usually sowing it with our oats, but last year we sowed some with our barley, and it seemed to succeed as well as with the oats. I see no reason why it would not do just as well if sown with spring wheat. It does not make much growth till the grain is cut, then it begins to grow, and in about six or eight weeks it will be ready to turn the stock on. Let it get a good start, then turn in all the stock you have—horses, cattle (excepting dairy cows in milk), sheep, and pigs, as they all like it, only keep them off in the morning, when the rape is wet with the dew, or after a shower. One field of rape is worth as much for fall pasture as three fields of new seeds. Take my advice and go ahead, and if your stock does not go into winter quarters in better condition than they have for years, you may give me all the blame.

Ontario County.

P. J. ROWE.



BASEMENT STABLE IN MR. EDGAR REAVELLEY'S BARN, WELLAND COUNTY, ONT.

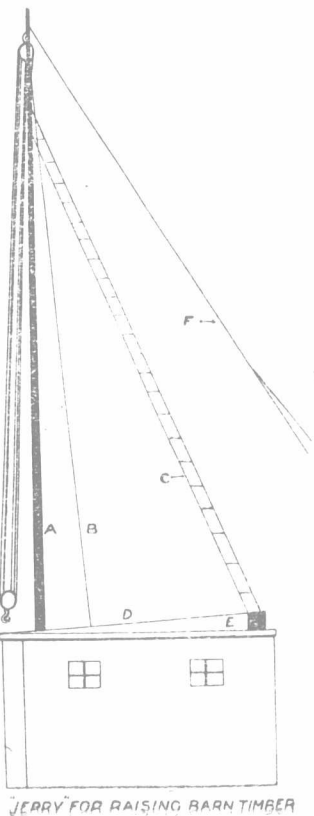
A Welland County Basement Stable.

Having often read descriptions and seen different plans of barns and stables of farmers in the western counties of Ontario, but seldom seen a description of one in the Niagara District, I send you the plan of one I built for Edgar Reavelley last year, in the Township of Wainfleet, Welland County. The basement walls and floors were built of concrete, with Battle's Thorold cement. The walls were 40x80 by 10 feet high, and 1 foot thick. It took 96 barrels of cement, 71 yards of gravel, 18 yards of stone, and labor of six men 10 days. For floors, 64 barrels cement, 32 yards gravel, 8 yards stone, and labor of six men 5 days. I may say that Mr. Reavelley is so pleased with concrete as a building material, both for stability, warmth and cheapness, that he is going to build a two-storey dwelling-house of concrete this coming season. H. W. HAGAR.

How to Construct a Jerry to Raise Barns.

BY JOHN D. M'GREGOR, HALTON CO., ONT.

As a number of the "Advocate" readers have been enquiring how to construct a jerry to raise barns, I have tried, in a rough pencil sketch, to give an idea of how to build a machine. A and B are two poles of cedar, if possible 35 feet long. They should be secured at the top by a stout piece of iron or a casting, with provision for at-



taching the top block to it. The bottoms of the poles should be about five feet apart and firmly bolted to sills 3x8 inches and 14 feet long. Then two pieces, 4x6, (c) should be bolted to the other end of each sill. These should reach within about five feet of the top of the poles, and be bolted to them there. Crosspieces spiked across will strengthen the structure, and will serve as a ladder, if it is found necessary to go up. The front of the jerry should be perpendicular when finished. But when raising a bent, the bottom should be back at least a foot to give room for the posts to swing into position. To accomplish this a block (e) should be inserted between the sills and the floor, large enough to give the machine the proper position, which is that the rope should swing perpendicular above the mortise to receive the bent, as the cut shows. A strong guy rope (f) is then securely tied to prevent the machine from upsetting. A snatch block is then attached to whichever pole is most convenient, and the rope passes through this and is hitched to the beam.

In starting to raise a barn, put together the first bent on the ground, with the tie beam towards the foundation and the foot of the posts away from it. Generally, a bent is taken in three lifts. First, the outside post, 16 or 18 feet long; the purlin post, 27 feet long, and the two beams, are raised and stayed. The other side is also put up. The machine is now shifted into the center and the tie beam and short posts raised. This is the most common style of frame. Some advocate using two jerries and raising a whole bent at once, but it is generally supposed to be better to take it in sections. In raising the plates, draw them alongside the building on the ground. Attach to the center of the plate, taking the main plate first. Use a guy rope at each end to balance it, put into position, then raise purlin up over the outside one and let rest on the cross-beams. Now shift your jerry into the center of the barn and raise the purlins into their respective posts. Casters should be provided for moving the jerry around the barn. These should be removed when a lift is taken. Triple blocks should be used.

DAIRY.

Three Years' Experience with the Test System.

For the past three seasons we have paid for the milk delivered at the Thamesford cheese factory by the result of the Babcock test plus 2 per cent., and it was sustained at last annual meeting without a dissenting voice. Our average pounds of milk to a pound of cheese was the lowest last season that it has been for several years, and the inspector has not had to report any patrons for watering or skimming milk, because in tampering with the milk under our system, a man is mainly hurting himself. The cheesemaker takes a small sample of milk every day, which is treated with chemicals to preserve it, and he tests once or twice a month. Makes a lot of work? Of course it does. The cheesemaker gets 50 cents per patron for the season, which buys the chemicals and keeps up the machine, bottles, etc. It is also at least 30 per cent. more work for the secretary, but he is supposed to be chock-full of figures and calculations and such like, and he only gets a very few dollars extra, and charges the balance of his time to profit and loss.

The difference it makes to the patrons is something like the following, taken from our books for September last:

John Jones sent 6,884 lbs. of milk; test 4 per cent.; received \$55.88; if pooled would have been \$53. Jonas Scribner sent 6,884 lbs. of milk; test 3.6 per cent.; received \$52.16; if pooled would have been \$53. Peter Paton sent 6,884 lbs. of milk; test 3.1 per cent.; received \$47.50; if pooled would have been \$53.

Now, this is quite a difference in the returns, instead of the old pooling system, when each would have got \$53. It should be mentioned that there are generally only a few patrons who have cows who give very rich milk, and these men take extra good care of it, which helps very much, especially in hot weather, and then there are a few patrons who have poor cows and are poor feeders, and take little or no care of their milk. But the milk of a large proportion of our patrons generally tests about the average, say between 3.3 and 3.6 per cent.

One farmer takes a load of wheat to the mill which weighs 60 lbs. to the bushel, and receives the market price. Another takes a load of wheat weighing 62 lbs., for which he receives two cents a bushel more than market price. Still another farmer brings a load which only weighs 58 lbs. per bushel. The miller says: "I cannot possibly make as much flour out of 58 lbs. wheat. I will have to give you two cents less than market price," and this is how we do at the cheese factory. We strive to pay a patron for the value of his milk according to the amount of cheese it will make.

Some farmers seem to have a special talent for taking care of cows and milk. We have some patrons whose cheques are always larger than some of their neighbors. Strict and close attention to details and patient perseverance will accomplish much. The cheese business is a great industry. Last season we distributed about \$20,000, and ours is only one of many. Oxford Co., Ont. D. LAWRENCE, Secretary.

Aunty Betty's New Kirn.

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Uncle Sandy has a gran' farm on the banks o' the big River; Wakapa Dousa, I think the Indians ca' the river, but, ca' it what ye like, it's a great river an' a bonnie ane; an' the bonniest place on a' its banks is Uncle's farm "Saugh Brae." Everything there, frae the big sleek Clydesdale horses an' the sony kye to the chickens, is gentle an' tame as pussy that disna think it worth while to get oot o' yer road, but rubs roon' yer legs by way o' welcome whenever ye come near. If ye kened Uncle ye wadna wonder at this. He is a kindly, cheerie man, an' the blink o' his ee draws a' the bairns about him whenever he comes in sicht. Ilka body likes Uncle Sandy, for the douce man wadna hurt the feelin's o' the meanest craitur. He's verra fond o' his joke too, but there was ae thing he didna daur ti joke about when it happent, though he thocht it ane o' the best jokes he ever kenn'd or heard o'. It was this way: His gudewife, Aunty Betty, is verra like Uncle, nice a kennin different in temper. She's just as nice an' kindly, but rather easier put about, or nettled, if I maun say it, an' she's verra partecular about her hoose-keepin; maun hae everything clean and shinin like a new preek. (Just here let me tell ye, forbye, that she fairly doats on Uncle.) Besides bein' noted for haein' the tidest hoose for miles aroun', her butter is considered the best in the market, an' the customers come tae her, she never has tae rin aefter them. They ca' the butter "gilt edge," whatever that may be, and folks say it is far better than the new-fangled creamery kin'.

Weel, the kye were increasing and sae were the customers for the butter, an' the auld kirn wasna big enuch for the extra wark. Aunty didna ken what tae dae, for she hated changes, and she didna like the thocht o' pairtin' wi the auld dash kirn that had been hers since Uncle an' her began to keep hoose thegither. But she didna want to neglect aither her kye or her customers, sae ae day aefter tea she spoke tae Uncle about the matter, an' the upshot was that neist time Uncle gaed tae market he brocht haem a fine barrel kirn set in a frame wi' rollers and ball bearin's, an' a lever to turn the crank sae that roon' birrled the barrel without the kirners haein tae bend their backs till 't. Aunty exminnit it cairfully, shook her head, an' said, "Wae's me, but what irr they comin' to. However, we'll gae the eerie thing a fair trial an' hope we mayna hae to fa' back on my auld dash kirn yet. There's cream ready for kirnin' and we'll just set about it. That's the only way to fin' oot whuther the barrel thing is ony guid or no." Sae aefter cairfu scaldin' o' the kirn, Aunty read over the directions an' seem'd pleased wi ae pairt o' them, for she said, whae'er made the thing had sense enuch ony way to tell ye no to kirn over quick"; an' aefter the cream was in an' the thing workin, a mair pleased look cam over her face as she said "it turns verra easy, far easier than workin' the dash up an' doon." In about twunty meenits the bit glass in the lid began tae clear off, an' she lifted the lid an' keekit in. Whan she saw the butter grains inside floatin' she fairly smiled wi pleesur; an' I tell ye Aunty's smile is sweet to see. Nae wunner Uncle fell in love wi her, but that's anither story. The buttermilk was drawn off, the butter washed an' gathere; an Aunty declared if she didna tak as many prizes an' red tickets at the fairs as she used to, it wadna be the faut o' the kirn. Then she said tae Uncle, "I'm rael proud o't, I see we only hae tae be cairfu an' follow the directions. I'll set the auld kirn awa to min' me o' auld times, but I tell ye I mistrusted that lid whan the barrel began tae whurl." The rest o' the story, an' that's whar the joke comes in, I got frae Aunty Betty hersel. Ye should hear her tell it; I maun een do the best I can.

Ae day, some weeks aefter the new kirn came hame, an Aunty had got sae proud o't that the auld kirn was quite forgotten, there was little left o' hoose wark, an' everything was even mair tidy an' orderly than usual, if that were possible; Uncle had a lang job about the stable wi harness or something, an Aunty thocht she wad just wile awa the time kirnin. Sae the kirn was brocht out an' the cream strained intil't, than everything was clear'd awa for the buttermakin. The kirn this time was near the middle o' the brow kitchen, an' Aunty was a' her lane. Whan she cam back frae puttin' awa the cream crocks she took hand o' the lever as usual an' began to kirn, as she thocht, whan roond gaed the barrel, awa flew the lid, an' the rich yellow cream was nearly a' ower the floor an' splashin' agen the wa afores

ye could hae clapped yer han's. She had forgotten to fasten doon the lid.

"I just stood an' gaipit," said Aunty, "wunnerin what tae dae, whan I saw the auld Tammas Cat quaitly lickin' at the cream, an' I fairly lost my head. I gaed a yell at the cat, an' as I made a dash at him in my fury I slippit an' fell—just sat doon in the deepest o't—an if I hadna lost a my senses afore, I lost them than, an' was a perfit madwoman for the time bein'. The cat, wi' its tail in the air, cleart oot o' the house to save its life, an' I deliberately pu'ed the plug oot o' the kirn an' loot the rest o' the cream rin to the floor tae join the food that was there already. Sunc after that the gudeman was comin in, an' had scarcely got to the ootside door, but had just said 'Dear' (for, mind ye, laddie, yer Uncle aye ca's me 'Dear' whan he thinks there's naebody else aroond tae hear 'im). I yell't at him. 'Gae wa oot o' this, dinna show yer face here, and he clear'd as the cat had done. Eh! My! but I maun hae been in an awfu' temper! Yer Uncle didna show his face again for an hour an' mair. By that time I had things rid up again, an' began to be ashamed o' mysel. He said something reflexkin on the kirn. 'Na, Na,' I said, dinna blame the kirn, the kirn's a richt. Blame yer old fule o' a wife for no faestenin' doon the lid, but I'se warrant she'll no forget it again.'"

Aunty haes na forgotten it again, an' maks even better butter than she ever did afore. Uncle disna ken whethur he wad hae likit to hae been there or no, whan the cream was on the floor.

N.-W. T.

T. B. C.

Churning Temperatures.

During winter we continually hear from all sides the remark, "I have so much trouble getting butter. I churn three hours, usually, and sometimes it takes me all day. What could I do to make it come as it should?"

Upon being asked the temperature of the cream when starting to churn, the reply usually is, "Why, 60 degrees! That is what my thermometer calls churning temperature, so I churn at that."

I find that this idea that there is some set temperature at which to churn at all times is one that is misleading a great many. If every one having this idea could be made to realize that the degree of 60 is marked "churning" on the thermometer as a guide only, and not to be taken as a hard and fast rule, and that churning temperatures range from below 50 to 70 degrees, and over in some cases, they would have less difficulty in churning. There are so many conditions which affect the churnability of cream that some practical experience is needed to determine the temperature at which to churn, so as to bring the butter in from 25 to 45 minutes, and have it in a nice firm condition. To do so, one must consider the following conditions:

1. The temperature of room in which we churn.
2. The amount we have in the churn. The more cream we have, the less concussion or fall there is, consequently a higher temperature is needed.
3. The richness of the cream. All conditions being the same, rich cream will churn at a lower temperature than poor cream.
4. The breed of cows kept. The butter-fat from Jerseys and Guernseys is of a softer nature than that from other breeds.
5. The feed the cows are getting. Any succulent food, and some kinds of grain, have a tendency to soften the butter.
6. The length of time the cows have been milking. This last condition is, I think, the one which causes the most trouble, and is the most difficult to understand. The fat from which we make our butter is in the milk or cream in the form of tiny globules or balls. The act of churning consists of dashing these tiny balls of fat against each other and the sides of the churn, thereby causing them to cling together to such an extent that the butter gathers up in nice grains or small lumps. With the advancement of lactation, or time of milking, these globules become smaller (decreased one half), and this accounts for part of the difficulty in churning strippers' milk. When these small globules are analyzed the chemist finds more of the high melting fats, with a proportional decrease in the softer fats, which also accounts for some of the churning difficulties. These facts teach us that as the period of lactation advances, the fat globules become smaller and harder, consequently they need more heat to enable them to adhere to one another, and makes it necessary to raise the temperature of the cream gradually and as it is needed. Some of our best authorities say that any cream will churn readily if it is at the right temperature, and I have found, from experience, that this is true.

Just one word of warning: If your cream is too cold do not pour in boiling water to raise the temperature, as the effect will be detrimental to the appearance and quality of the butter, but rather take it from the churn, if you already have it there, and put the vessel containing the cream into another containing hot water, then stir well until the desired temperature is reached.

Welland Co., Ont.

DAIRY MAID

P. E. Island Dairy Association Annual Meeting.

The annual meeting of the above Association convened in Charlottetown on Thursday, March 13th. The attendance was very large and the proceedings of great interest. The 44 cheese factories in operation during the past season were all represented by one delegate each, as were also the seven creameries. There were also a large number of people interested in dairying present. From the Secretary's report we learn that the total amount of milk made into cheese at the factories during 1901 was 37,230,755 pounds. The number of pounds of cheese made was 3,554,719 pounds, showing the number of pounds required to make a pound of cheese to be 10.47. This is a falling off of about 1,000,000 pounds of cheese from 1900. The gross value of the cheese output this year was \$320,521.75. The net value to patrons was \$245,297.30, showing a cost for manufacture of \$2.11 per hundred pounds.

In the creameries during summer and winter in 1901, 12,862,775 pounds of milk was made into 571,961 pounds butter, showing 25.12 pounds of milk required to make a pound of butter. The gross value of the butter was \$119,974.87, and the net value to patrons \$97,383.94. The butter business shows a little increase on the previous year.

Mr. Fraser T. Morrow was employed during the past year as inspector and instructor at a salary of \$1,000. To raise part of the amount necessary for expenses of dairy association, a tax of 1½ cents is levied on each 1,000 pounds of milk



THE LATE MR. HENRY ARKELL.

received at the factories. Small grants are also received from both the Dominion and Local Governments. During the month of March this year, by the help of the Dominion and Local Governments, a dairy school was instituted under the auspices of the Association. It continued for two weeks, and between 30 and 40 cheesemakers were instructed in the latest and best methods of cheesemaking and milk testing by J. W. Mitchell, Dairy Superintendent for the Maritime Provinces; Fraser T. Morrow, Inspector for P. E. Island; and during the last few days of the school, J. A. Ruddick, Chief of the Dairy Division, Ottawa. The students acknowledged themselves to be greatly benefited by the valuable instruction received, and at the close of the school passed strong resolutions complimentary to the teachers.

It is expected that the school will be continued another year and include, besides cheesemaking, a course in buttermaking.

The report of Inspector Morrow was excellent. It discussed everything connected with co-operative dairying, from the feeding of cows and care of milk by patrons on through the manufacture of cheese and butter, condition of buildings and plants, and the disposition of whey. The inspector said the greatest trouble he had was the whey tanks, which, as a general thing, he found to be kept in a very filthy state, and were, in his opinion, often the cause of bad flavor in cheese. He spoke strongly in favor of having the factory premises kept clean and snug, and the grounds surrounding made bright and attractive. Thought this would have an influence on patrons to do their part better in supplying a clearer-flavored milk. Mr. Ruddick complimented the Inspector on his excellent report. Said it was one of the best he ever heard, as it spoke right out fearlessly about matters that required to be reformed.

Prof. J. A. Ruddick read a most excellent and intensely practical paper on "Essentials for success in co-operative dairying." Some of these essentials were "Management of the dairy herd," "Type," he said, "is of more importance than breed, and performance than pedigree. The best cows will become unprofitable under lack of care or with insufficient nourishment." The Professor emphasized the importance of patrons supplying only pure, clean milk. All patrons had a direct financial interest in doing so. No care or skill in the maker could overcome bad defects in the milk. The Professor thought we were not making the advance we ought to be making. He warned the dairymen of P. E. Island against being possessed with a self-satisfied feeling and resting on past achievements, thus promoting the dry rot of contentment, which was always a dangerous thing, but rather make every effort to improve their dairy practice. He warned Island dairymen against building too many small factories, thus creating too much competition for milk, and also against employing cheap cheesemakers at low wages. Spoke strongly and warningly of the sanitary conditions of the factories; said there was great danger of the whole surroundings becoming contaminated from leaky floors and gutters. Advised cement floors as most sanitary and cheapest in the long run. Other matters treated of were control of temperature; very low temperature for buttermaking to retain flavor. He said whey should never be returned in cans. Thought factory surroundings should be made inviting by having a lawn and a few flowers to make life pleasanter to the managers, and was of opinion that thereby an unconscious influence would be exerted on patrons which would tend to make them do better.

Mr. J. W. Mitchell's excellent paper was on "Dairying from a productive standpoint." His first point was "quality of product. Supply and demand largely controlled prices," yet we could control our market to a large degree by producing only the best quality. "Feed no foods that will impart bad flavors." He spoke strongly of properly caring for cows, to keep them clean, and milking in a pure atmosphere, only using tin dishes for handling the milk, and when tinning wears off, discard them. Cows must be well fed and well housed. Grow plenty of cheap succulent food for them. Provide suitable winter feed, so as to carry on dairying all the year round. Weigh and test the milk of each cow once a month during her milking period. Weed out unprofitable cows. Use only pure-bred dairy sires, and raise calves from the best dairy cows.

Death of Mr. Henry Arkell.

We regret to record the death, on March 23rd, 1902, of Mr. Henry Arkell, of Teeswater, Ontario, at the age of 70 years. Mr. Arkell was born in 1832, at Bampton, Oxfordshire, England. His early years were spent on his father's farm, of which he was manager for a few years. In the year 1858 he came to Canada, and for the first two years worked with his late uncle, Mr. Thomas Arkell, on the Farnham farm, now owned by his cousin, Mr. Henry Arkell, of Arkell, near Guelph, after which he was for ten years manager of "Moreton Lodge," the 600-acre farm of the late Mr. F. W. Stone, at Guelph, the farm now owned by the Ontario Government, on which the Agricultural College stands. Here, by faithful service, he gained a wide experience in the care and breeding of pure-bred stock, and won for Mr. Stone prominent recognition among Canadian breeders of Shorthorn and Hereford cattle and Cotswold and Southdown sheep. At the end of this term he settled on the 200-acre farm, in the County of Bruce, on which he died, which he had owned for about 12 years previously, and on which he maintained, up to the time of his death, a high-class flock of Oxford Down sheep. He was an excellent judge of stock, and a very intelligent, conscientious and upright man. His services were frequently called for as a judge at the leading shows, and especially of late years at the Provincial Winter Fairs, where his ripe judgment and experience enabled him to give good satisfaction. Mr. Arkell was highly esteemed in his own county, where he was best known, and was repeatedly elected to offices of trust, including the Presidency of the Electoral District Agricultural Society and the Farmers' Institute. He was from time to time a valued contributor to the columns of the "Farmer's Advocate" on stock matters throughout its entire history, his first contribution appearing in the initial number of the paper 36 years ago, and his last, "A short history of the Oxford Down sheep," in December, 1901. At that time his health had been failing, and he suffered long and severely, but patiently, from stomach and liver troubles. His wife, two sons and two daughters survive him. In his death the "Farmer's Advocate" suffers the loss of a faithful and true friend, the community in which he lived an honorable and public-spirited citizen, and his family a wise and affectionate counsellor, whose consistent life and character will ever be an inspiration and a benediction.

Winter Dairying and the Creamery Question.

The question which has been perplexing the farmers of the Valley of the Ottawa, and the same question has no doubt become intricate in a greater or less degree to all the dairymen of Eastern Canada, is pasture for the carrying on of summer dairying.

Of course, there is a great amount of land that is good for nothing but pasture, and never will be, and summer dairying is carried on with a fair profit; but all the land that is available for tillage is being absorbed for that purpose, and the question is year by year becoming more intricate.

Probably one half of the agriculturists of the Valley are in a position, owing to the adaptability of their land, to make summer dairying pay, and summer dairying only. They can do this because their land is only worth from ten to twenty dollars per acre, and being composed for the most part of high and low land, there is a choice assortment of natural grasses, which keep the cows in full flow during the dry season. By turning the milk into the cheese factory, and raising just enough corn and cereals to carry the dry cows over winter, they are at the end of the year able to declare a fair dividend on their capital.

But not so with the man whose land is worth from fifty to one hundred dollars per acre; he finds that even on the same acreage he cannot produce, with the same labor, as high a quality of butter or cheese, as his land will not grow assorted natural grasses, and, as has been the case for the last fifteen years, he tries to make money by selling grain, and, consequently, barely makes a living.

This is not the way matters ought to stand, and I am thankful to say will not stay long, as in several sections of the country farmers are now able to declare a dividend of 25 per cent. on their capital. This is done by winter dairying. Any one-hundred-acre farm in the Valley worth sixty dollars per acre should be able to maintain throughout the year a milking herd of not less than twenty-five cows. The actual profit is to a great extent gauged by the kind of cow, and situation and environment has to be taken into consideration in choosing. If the situation is convenient to a good butter market, choose a breed of the heaviest-milking strain—the more milk the more profit—and half-and-half do not go consistently together. If the situation is far from the railway, choose a dual-purpose breed, and make butter during the winter months only. By having the cows calve in September and October, this can be accomplished easily. The summer cow rations may go to the making of baby beef and a carload of prime toppers turned off every Christmas, and the profits almost equally as great.

Out of the one hundred acres it would be necessary to have 20 acres of corn for the silo, 10 acres of roots, 25 acres of hay, 25 acres of pasture, 10 acres of green feed; four acres more would be taken up with buildings, yards, etc., leaving six acres to come and go on.

The by-products of such a farm—hogs, poultry, bees, horses, sheep, etc.—should defray the running expenses and keep the household, leaving the net profit of each cow, which should average fifty dollars, for either extending the business or the bank account.

In this progressive age, anyone can afford to spend a few weeks in a dairy school, or intermittent readers of the "Farmer's Advocate" are well posted in the principles of running a home dairy. If it cannot be afforded to equip one, a beginning can be made with a separator worth \$75, a churn worth \$5, a butter worker worth \$3, and a print worth \$1.50. Any clean cellar will do for summer and a portion of the kitchen screened off will do for winter. In less than two years, a creamery can be built, with an ice house and cold storage and power to run the machinery.

There is an unlimited demand to-day for all that the creamery can turn out. In every city in America, a trade can be worked up and the butter delivered round to the houses once a week. I am working on just such a farm now, and have seen the system in operation for the last ten years. Though the farm is forty-five miles from the city, the butter is shipped per express once a week, received by a delivery wagon, and distributed. The entire cost of transportation and delivery is one cent per pound, the collecting being done once a month by the farm manager. Requests for butter are refused during the winter months, six days out of seven, and I am confident that if the business were extended one hundredfold, the demand would be all the greater.

But, some will say, have we not got our creameries? Is it not far handier to turn our cream in these and be done with it? That is just the point I want to get at. Are we farmers going to stay continuously tied to the cow's tail? Are we going to do all the dirty work entailed in getting the cream, and then, when the ideal part of the work begins, hand the unfinished product over to someone else? No! The sooner we get off that notion, the better, if there is any profit

in the finishing of the product, we are the men that should have it. Farmers are the men who are destined to wield the power of our country, and the more they move out and associate themselves with the interests of others, the better. New ideas are brought home every time they move among men of a different craft. Taken as a whole, they stick too close to the cow's tail. If every farmer supervises his own creamery and disposes of the finished product, he will grow more in touch with the outside world; come home from the city with a broader view, stimulated with a desire to push forward. The farm will be enlarged and the home business extended, and careless farmers will either have to mend their ways or be pushed aside. Putting the question squarely, is it judicious management to mix the cream of all the different herds, as is done in creameries, scarcely any two farmers following the same methods in feeding, and a great quantity of the cream that could have been made into a first-quality article going to the making of second- and third-quality goods. A satisfactory export article can never be turned out of one patron creamery out of ten.

One of the greatest blessings of the system will be that the farmer's son will have no need of looking to the city for a field of industry, but will, with a home fitted with all the conveniences of luxury and a business which calls for more brains and less drudgery, "eke out life's way among the lowing kine."

R. LEWIS.

Lanark Co., Ont.

Care of Milk on the Farm.

We are receiving fresh evidence every year of the urgent need of more care being taken of the milk at the farm. That the average patron does not give his milk the best of attention is an undisputed fact.

The leading dairymen of our country are awake to the fact, and there seems to be something in the air which indicates that an extra effort is about to be put forth to improve the quality of our raw material for cheese and butter-making.

The importance of the industry demands it, the recognition which the industry is receiving at the hands of the Government demands it, and the reputation of our dairy products abroad demands it.

The last two years has seen a wonderful improvement in the quality of the milk supply in our large cities.

The public mind has become more or less educated, the composition and value of milk is being better understood, and the necessity for clean milk is being more fully realized.

Take the "City Dairy," of Toronto, for example. They are vigilantly looking after the purity of their milk supply. The farms are visited frequently by skilled men, and if anything is found to be wrong the farmer is requested to remedy the grievance. Should a patron be obstinate, he is dropped at once, and a new one hunted up to take his place. They are scouring the country for 100 miles in order to get the best, and such methods cannot fail to improve the quality. We need just as fine a quality of milk for cheese and butter-making as is required for city purposes, and there is no good reason why we should not get it as well as they. We do not get it, however, and the principal reason is want of care and cleanliness in its production.

A great deal of milking is now being done by men, and the average man has never been taught to regard the milking process as requiring any more cleanliness than ordinary farm work. No man can work around stock for even a short time without having his hands become more or less dirty, and yet how many ever think of having a wash basin and towel in the stable to wash their hands before sitting down to milk?

Milking with wet hands usually transfers the dirt from the hands and teats into the milk pail, and where a cow's side and udder are not carefully brushed or wiped with a damp cloth, a great deal of hair and loose dirt is worked off and falls into the pail.

At the Pan-American last summer there were ten herdsmen who had the milking to do. They were supposed to keep the cows in a state of "model" cleanliness, and there never was any question on that score: every cow was as carefully brushed and cleaned as a race-horse. Out of those ten milkers two always brought in their milk in a state of "model" cleanliness, five or six brought it in fairly clean, and the balance was brought in positively dirty, and this where the cows were getting the very best of care.

The difference was all in the milkers and in their methods of milking. Fully 25 per cent. of that milk was unfit to make the finest butter if it had been treated in the ordinary way, but it was strained and cooled immediately over a "star cooler," which checked the growth of undesirable taints over night, while the morning's milk was at once run through the separator.

Now, if we could get only 20 per cent. of "model" milk under such favorable conditions,

what per cent. are we to get under ordinary conditions?

"Model" milk is scarce, average milk is fairly abundant, while dirty milk is far too common.

The chief causes for poor milk in summer are: Milking with wet hands, neglecting to wipe the cow's udder and side with a damp cloth, pails and cans whose seams are filled with putrefactive bacteria, allowing the milk to stand where the dust from the milking yard is blown into it, neglecting to aerate and cool the milk at night, and putting the milk into rusty cans. These are the principal causes of the bad flavors which our factorymen have to contend with in summer.

In winter dairying we have the greater part of the summer conditions, with the addition of dust in the stables, foul stable odors and manure hanging on the thigh and udder of the cow to contend with. Stable odors are the most common and the worst that we have to contend with in the winter at the factory.

The students at the O. A. C. dairy school have been experimenting with cultures which they made in the bacteriological laboratory from germs of different kinds, and among which were germs from cow manure and also from common road dust. These cultures were put into small quantities of cream and allowed to develop their taints or odors while the cream was ripening, when the butter was churned out. That from the cow manure culture gave off a flavor exactly identical with the flavor of any amount of our winter dairy butter which finds its way onto our markets, while that from the common road dust was the worst flavor of all in eight different samples, and scored 7 points for flavor out of a possible 45.

This goes to show that milk or cream which is being hauled over a dusty road on a hot summer's day is in great danger of being contaminated with one of the worst flavor-producing germs which it is possible to get. The dust from the milking yard is also another bad source of contamination, as the yard has, in all probability, been used for the past quarter of a century, more or less, as a milking yard in the summer, and during that time the ground has become pretty thoroughly seeded with the worst forms of bacteria from spilled milk, urine and manure from the cows. It seems incredible that we should be drinking milk and eating butter which is seeded with germs from cow manure, but, in plain language, that is the fact. In winter milk, not ten per cent. of the morning's milk is free from it; the evening's milk is better, but it all goes together, and is all seeded.

Many will challenge the statement re the morning's milk, but here are the facts: Our stables are badly ventilated or not ventilated at all; the air is reeking with odors from the droppings of the cattle and the exhalations from their bodies, which have been accumulating all night; the stockmen go in in the morning and close the doors to keep the stables warm; feeding commences and the air is filled with dust from hay, straw, etc.; then the milking usually commences, and even if the cows are cleaned and the loose manure brushed off, more or less dirt always gets into the pail; the streams of milk are driven through the foul atmosphere, and carry more or less of the air down into the milk in the pail. Living germs are thus put into the milk by thousands and millions, and the temperature and the medium are just what they want for rapid development, and although they cannot be seen by the naked eye, still they are there and making rapid progress so long as the milk is at a favorable temperature. Warmth and food are just as essential to the growth of germ life as they are to the growth of any other living organism, and so long as these two conditions are present, the germs multiply rapidly, but let the milk be cooled down, and, although their food is present, their growth will be checked according to the temperature to which the milk is cooled.

Under present conditions it is impossible to get milk out of most stables comparatively free from bad odors or odor-producing germs, but by paying some attention to ventilation, keeping the cows better cleaned, exercising more care in milking and getting the milk out of the stable, strained, aerated and cooled as quickly as possible, great improvement could be made in a very short time.

If farmers who send their milk to the factory or creamery had some sort of a simple aerator and cooler over which to run their milk, the improved flavor and keeping quality would surprise them. There are such to be had, but very few farmers will go to any expense in connection with their milk so long as it passes inspection at the factory.

Old cans are another bad source of contamination. Any can which has the tin worn off in spots on the inside is not fit to keep either milk or cream in. Very few patrons care to discard a can so long as it will hold milk, but a rusty can is just as fatal to the good flavor of milk as anything we get out of the stables, and should never be tolerated for sending milk to the factory in.

JAS. STONEHOUSE

The Cream Gathering System Denounced.

To the Editor "Farmer's Advocate":

Sir,—Kindly permit me, through the columns of your influential paper, to sound a warning, or enter my protest against the extension of a system of buttermaking which I believe will endanger, if not destroy, the reputation of Western Ontario for the production of the finest quality of dairy goods. I have made the statement, addressing dairy meetings, that the dairy cow and the bacon hog were doing more to glorify and advertise Ontario to-day than any other two products. I do not think that is an extravagant statement, and I verily believe that this reputation is worth a good deal to us, and that the dairymen should very carefully guard this reputation and make their best effort to protect it; but the tendency at the present time seems to be toward making more butter upon the cream-gathered system, which, in my judgment, is in the opposite direction.

This tendency to go out of cheesemaking and turn to butter is more particularly noticeable in the northern district, where there are from 20 to 25 factories, which a few years ago were making good quantities of cheese, which are now either lying idle or are engaged in making butter on the cream-gathered system, and now I understand that the celebrated Bluevale factory, which during past years has certainly done much to bring repute to the name of Canadian cheese, is also going into the cream-gathering business.

Now, I have had considerable experience in

at which I want to strike, and I make these statements in what I understand to be the best interests of dairying, and believing the facts will stand the most thorough investigation among those who are handling the butter, believing they are the best authority upon what kind of satisfaction it gives. In this particular the Montreal exporters or English receivers have the advantage, as they see the butter from different sections of the country, and made under different systems, side by side.

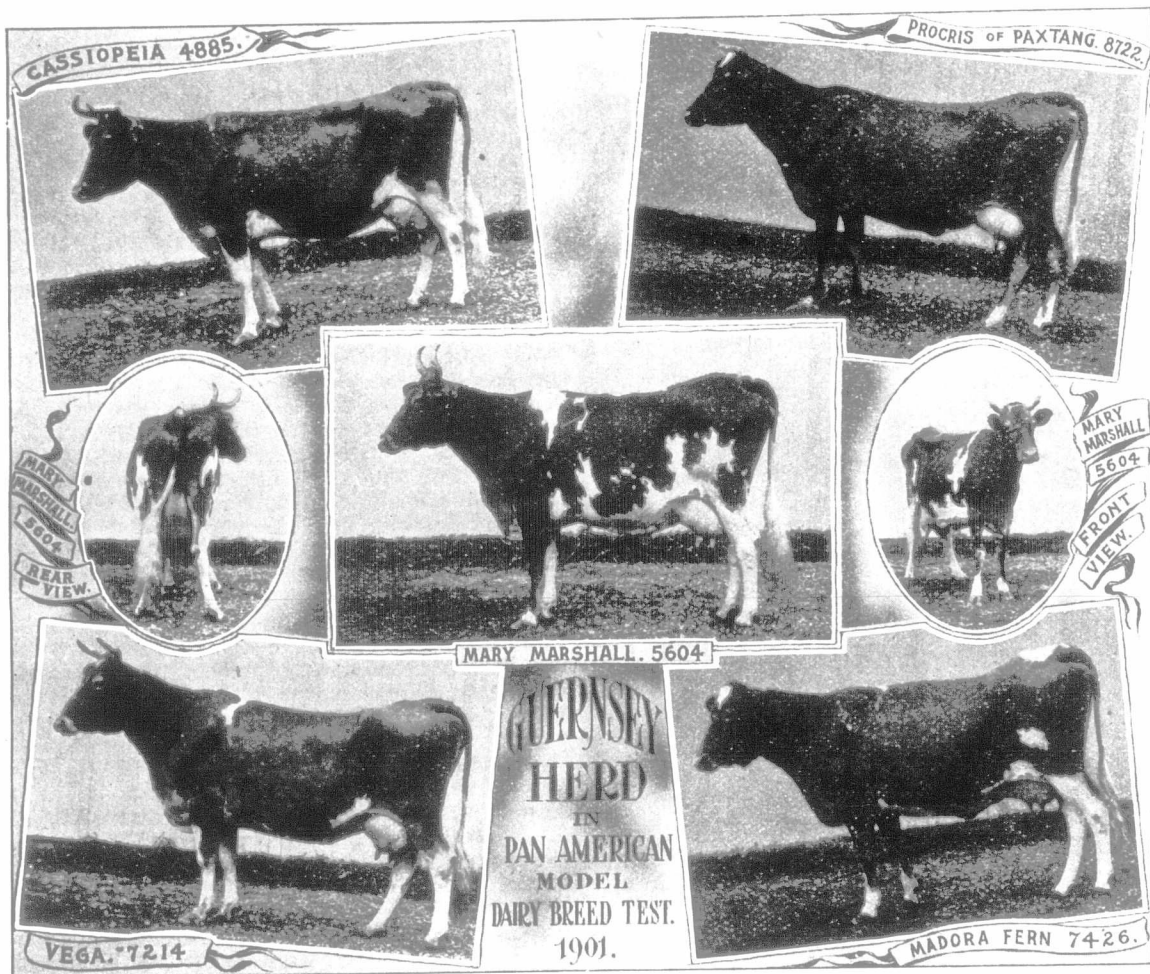
I must admit that there are certain results, such as the giving of prizes, etc., in Canada which would seem to refute this contention, one instance of which I happen to be connected with myself, and in case this might be quoted if this letter provokes discussion (which I hope it may), I shall here refer to it. At the Pan-American Exhibition in Buffalo, where I acted as Canadian judge in the October competition, with Mr. A. H. Barber, of Chicago, and Mr. White, of Boston, the butter exhibited by Mr. J. McQuaker, of Owen Sound, scored 97½ points, and that of Mr. Brill, of Teeswater, scored 97¼, both being cream-gathering creameries, while the highest score recorded on any butter of the 330 samples was only 98. This may have been due to the cream being very carefully selected, possibly from separator cream, the weather at that time being cool and the butter fresh made, and sent under favorable conditions. This being true, however, I reiterate my statement that we find the cream-gathered butter, as a rule, when 10 to 20 days old, of a

GARDEN AND ORCHARD.**The Cold Frame.**

WHAT IT IS AND HOW TO USE IT.

My article last month dealt with the making and management of the hotbed, an adjunct of the garden which is now used to a large extent, not only by the professional gardener, but by the amateur and by the most progressive farmers.

The cold frame, which I now propose to describe, is, however, although almost as important as the hotbed, seldom seen, or its uses are not appreciated. It is a well-known fact which can be verified by anyone who has anything to do with plants, that when a plant, especially a tomato or other requiring a high temperature, is transplanted directly from the hotbed to the open ground, it usually stops growing or stands still. It may be a couple of weeks before it begins to grow and thrive as might be expected. In order to counteract this effect a cold frame is absolutely necessary in order to secure stocky plants, properly hardened, that will stand transplanting well and produce a crop much earlier than they otherwise would. A cold frame is of the simplest construction; no planks, pit or air-tight sash is needed to give the best results. A naturally-drained soil should be selected, well dug and fertilized. The box or frame, which should be, if possible, a little higher on the north than on the south side, so as to catch the sun, is placed over this prepared soil. The soil should not be made too rich, especially with barn manure, as it makes a rank growth. Wood ashes or phosphate is better, for a stockier growth is produced by their use. A good loam containing considerable rotted sod I find to be the best soil for the cold frame. The sashes should slide off and on the frame easily, as is the case with a hotbed, and later on in the season can be taken off altogether. Now for its uses. When the plants in your hotbed become crowded and the days get warmer, then is the cold frame most necessary. There is no waiting to get the proper temperature as in a hotbed. As soon as the soil is prepared, the plants can be taken from the hotbed as carefully as possible and set at a corresponding distance, according to kind. A wet or, in this locality, a foggy day is best, but if the plants are well watered both before and after setting out and then kept shaded for several days by putting a bag or bunch of hay over the sash, they will not be greatly checked, and will start in to grow with much more vigor than if they were larger. All plants should not be removed from the hotbed, however, as enough should remain to fill the bed when they become larger. Ventilation should be given on hot days, as this is the most important requirement. The temperature is liable on a hot day to run up so fast as to burn or scald the plants beyond all recovery. Watering should be done either in the evening or morning, and the less the water touches the leaves the better; the soil is much better poured than sprinkled, and the water should be well soaked. The sashes had best be taken off or slid down later in the season and a screen of wire or laths placed over the bed to keep the chickens out. Some gardeners claim to have good success with a sort of cheese cloth instead of glass for cold frames, but I have found it to be of little or no advantage, for, when once wet, it shrinks rapidly, admitting the cold night air and chilling the plants. In speaking of plants, I refer to tomatoes, as they are the crop I use the cold frames for principally, and as they are a very exacting plant, what treatment is successful with them is good for other plants of the same class. Cabbage and celery, however, do not need as much heat to perfect them, and I only keep the sashes on at night after the middle of April. It is the same with lettuce and cauliflower. Besides these, the cold frame can be used to produce a crop directly of radishes, cress, lettuce and other salads. Cucumbers and melons can be planted among them, which, after they are out of the way, take up the room and begin to bear long before the ordinary season for such products. In a nutshell, so to speak, the advantages of a cold frame are these: It is cheaply constructed, easily looked after, lengthens the growing season, and enables the plants to grow strong and stocky; thus much better able to resist disease and insect attacks than they otherwise would. Though not a substitute for the hotbed, it is a necessary adjunct of it, and as such is greatly desirable. When plants for a second early or late crop require to be grown at the least expense, there is nothing to equal it. I do not use anything else for late cabbage, celery and tomatoes. Another use the cold frame can be put to after the plants are removed is quite novel. The sashes are taken away, part of one corner covered with boards, and wire netting placed over the remainder. A



handling butter from both the separator and cream-gathered methods, as the factorymen well know, both for Montreal firms for export and for Canadian markets, and I have no hesitation in saying that the separator butter is much superior in quality, and, in fact, the only class of Canadian creamery butter that is sought after by Montreal and all other leading exporters and dealers for even finest Canadian trade. In handling creamery butter, I have during the past summer, more frequently than ever before, been met with the statement, "Your Western butter is bad in flavor; we do not care to handle it." This applies to summer butter made on the cream-gathered system, and it has become a recognized fact that during summer the best butter is made in the east, and during winter, when the cheese factories are turning out butter on the separator system, the best butter is found in the West.

On the other hand, it is a fact that Canadian butter is in much better repute in English markets row than a few years ago, but it will be admitted by those that know the facts that this reputation has been redeemed by the introduction of separators, the adoption of the method of weekly shipments, when the butter is in good condition, and better transportation facilities; but still the quality of the average cream-gathered is not wanted.

These are bold statements, and may seem to jeopardize the interest of some of the creamerymen with whom I do business, for which I am sorry, but it is only the extension of the system

sort of stale, sour, heavy flavor, and it is getting all the time harder to handle it, while shippers cannot get enough of the clean, nutty-flavored separator butter.

Instructors, and those who are advocating making more butter, should also advocate the establishment of separator creameries only.

Should you or anyone else wish to make enquiry upon this subject, I will be pleased to furnish a list of exporters' names to whom you may refer for information.

Yours truly,

I. W. STEINHOFF.

Perth Co., Ont., March 20th, 1902.

Saved Two Heifers.

I am sure the "Farmer's Advocate" is well worth the money. I had two heifers that would have lost their udders, but we went to the "Advocate" for instruction, and they came all right. In many other ways it has instructed us.

Simcoe Co., Ont.

IRA HASTINGS.

Wind-break for Orchard.

I am going to plant a wind-break of spruce along the north and west sides of my orchard. (1) How far should they be planted away from the apple trees, and (2) how near should the spruce be planted together?

Ans.—1. If the space permits, about 50 feet.

2. Plant spruce 15 or 16 feet apart. They will fill the spaces in a few years, and make for finer trees than if planted closer.

hen and flock of chickens are placed inside away from cats, hot sun and vermin; they thrive better than anywhere else until they are large enough to take care of themselves. E. MACKINLAY.
Halifax Co., N. S.

What I Saw and Learned in British Fruit Markets.

BY W. B. RITTENHOUSE.

The thought occurred to me that perhaps my observations in British fruit markets might interest some of your readers, and possibly have a tendency to put those catering to that trade on their guard.

Being a fruit-grower myself, it was only natural that I should be personally interested in and anxious to learn all about the transportation and marketing of our fruit in foreign countries. With that object in view, I sailed from Montreal in November, on one of the Manchester liners, which carried a large quantity of fruit — mostly apples. It was nearly three weeks from the time the apples were taken on board till they were taken out, and I was exceedingly anxious to learn their condition, because, although the steamer was provided with fans, I noticed occasionally in transit that the fans were not kept going. Many of these apples were wet and slack, simply because they had insufficient ventilation or circulation. The process of ripening that had started as soon as they were packed was only increased in the ship's hold, where thousands of barrels were stowed away. This ripening generated heat, moisture and gases, making the place anything but desirable for the preservation of fruit, but a model decay factory.

At present about one half of our apples are reported slacks and wets. The slacks, taking an average for several years past, sell for about 2s. 6d., or 60 cents, less per barrel than tights; slightly wets for 3s. 6d. less than tights, wets 7s. 6d. less than tights, and wets and slacks nearly 10s. less than tights. You can therefore readily see this is an important matter, and deserves due attention.

The question now arises, how to overcome this difficulty? There would be little use for individual shippers to protest against the present system to these large transportation companies. The Government should be asked to take this matter in hand and see that our apples are put in properly ventilated quarters, and thus save fruit-growers thousands of dollars annually. Apples could be stowed away (it means additional expense) so that a current of air could be passed among them; this could be obtained either by fans or by introducing air by means of wind-sails. Some years ago I came up from Kingston, Jamaica, to New Orleans, on a steamer laden with bananas and other tropical fruit, and even in that tropical clime those huge wind-sails carried down such streams of pure, fresh air, which was distributed among the fruit, that the cargo, some of which had been on board for three weeks, arrived in prime condition.

I am aware the economy of space and the proper stowing away so that a cargo cannot shift are all-important matters to be considered. What shipper would not be willing to pay one third or even one half higher ocean freight if he had the assurance his apples would be carried in properly ventilated quarters, and few or no slacks and wets as the result? There is no reason why they should not be laid down in European markets in as good condition as though they were stored here in an ordinary fruit house. The saving thus effected would amount to an enormous sum. Now, since we have the "Fruit Marks Act," a step in the right direction, all we want in this connection is the above matter attended to, and we have a market opened to us that will consume greatly increased quantities at profitable prices to the grower.

I have thus far referred principally to our winter apples. Undoubtedly the summer and early fall varieties, on account of their poorer-keeping qualities and the higher temperature at that season of the year, must go into cold storage, a matter the Government has been experimenting with, and when the best temperatures for the different kinds of fruit is learned, and the best system of cold storage adapted to fruit is learned, no doubt much of our perishable fruit will find a market across the Atlantic.

The trade from Australia, New Zealand and South America to Great Britain in frozen meats has grown to immense proportions, and when a system of cold storage that will be equally as well adapted to fruit has been perfected, a new era in the fruit industry of this country is assured.

We will now take a look around the warehouses of Liverpool and Manchester, since the cargo of apples has been discharged. Different systems of handling fruit are in vogue in different cities in Great Britain; the same prevails in these two, where large consignments are made. There are several large concerns known as fruit brokers, to whom nearly all the fruit is consigned — not only the American, but also the Mediterranean, etc. Each lot is separated and

carefully examined as to tights, slacks, slightly wet, wets and slacks, etc., and as soon as a list can be published they are ready for examination by intending buyers, who open the barrels, possibly both ends, and examine them carefully, taking notes of each lot, so that when they are offered for sale a day or two later they may know just how to bid. The apples are not sold at the docks, but carted to the auction-sale warehouse, which is underneath the auction room, the two connected by elevators, so that samples, usually two boxes or barrels in every twenty, are elevated to the sale room, which is a large room with raised seats looking down upon the fruit being offered for sale. It is seldom that apples are sold by simply exposing the face of the barrel; if anyone requests that the apples be dumped, out they go in a large basket. If anyone wants to sample these apples (and who would not) all he has to do is shout "apple," and an apple is thrown him. It is really surprising how many apples disappear in an incredibly short time. In looking over the account sales you have invariably noticed that these sample or show barrels always bring less money, which I was unable to account for until I saw this sampling business carried on, when the mystery was solved. The English are usually considered to be a little slower than the Americans, but in two things, at least, I found they were quite up to us: in eating those sample apples and conducting their auction sales, which go with lightning speed, reminding one very much of the way they do business on the Chicago Board of Trade.

All the expenses of sorting, examining, cataloguing, printing, carting, cooping, warehousing, dockage, etc. (I think the latter includes "tips," among other charges, because I have never been able to trace any other source through which they might possibly come), is charged up to the shipper, in addition to the regular commission of five per cent. The apples are sold according to the rating given them in the catalogue, but should the purchaser upon examination learn that they do not tally correctly, perhaps more slacks or wets than listed, then he has twenty-four hours to reject them, and they must be re-sold. This is certainly an injustice to the shipper. I do not wish to be understood that I am censuring those fruit brokers; they are no doubt doing an honorable and straightforward business, but I do say that quite a saving could be effected by shipping direct to the wholesale fruit dealers in the different seaports as well as inland towns. Their commercial rating could be easily obtained, or they could be asked to have their banker guarantee the payment, which, if in good standing, they would not refuse to do.

I saw Nova Scotia apples sold on Covent Garden Market, London, that were in prime condition. Their barrels hold about one half bushel less than the Ontario barrel, and were made of birch, I think, and had a nice, clean, white appearance. I am of the opinion that the elm we are in the habit of using here is not the best material, being too susceptible to dampness and mould, and therefore not adapted for trans-Atlantic export. I would like to know the results of test shipments made in barrels of some other material alongside of elm.

The apples here are put up by auction, the face end opened, and the buyer runs all risks, and no returning should they not prove satisfactory. The English like our apples, and if we will study their wants and tastes and give them exactly what they want, they can make use of all that class of apples we can grow. Our fancy apples should go in boxes, but whether we box or barrel them, they should be, if possible, packed the same day they are picked, thus retaining that bright, clean appearance which is lost by allowing them to "sweat," as was thought necessary, which they really never do. Too much care cannot be taken in sizing and grading; we must use a grader. The apples in one package should be as nearly as possible uniform in size, and the size and the number the package contains marked thereon. The Englishman places very much more importance on the appearance of things than we do. He is accustomed to have everything present a fine appearance, and quite willing to pay good prices if the grade comes up to his ideal. Instead of making only one picking of our apples, pears, etc., as is generally practiced, they should be picked over several times, the same as we do the peaches. Some may think it will add too much to the expense, but I am quite certain it will pay well for the extra labor. You can by this means begin handling your crop earlier, and relieving the trees of a portion of their load will at times save many limbs being broken, and will give the remaining fruit a far better opportunity to color and develop. An Englishman in America soon, from necessity, adapts himself to our customs, but an Englishman at home is a different being altogether; there is no use you attempting to change his ideas or customs. While they are too much inclined to cling to old customs and habits, we have a tendency to run to the other extreme.

Our grapes are by no means popular in England, as the low prices realized for them in com-

parison to the home-grown would show. I saw the latter sold for about one dollar per pound. At that price we would go for them rather sparingly; well, that they do with all kinds of fruit. Grapes, for instance, served as a desert: two grapes, not two clusters, is the rule; you cut off two grapes with a pair of scissors. Some Americans, from a little ignorance along this line, have made themselves quite notorious by devouring what was intended for a dozen or more. These fancy grapes are all grown under glass; in the suburbs of London hundreds of acres are devoted to this industry. You will see fresh fruit and vegetables of nearly every kind on the market, and that the year round. All countries contribute to supply this demand. The English have never taken extensively to canned fruit, vegetables, or meats; they want everything fresh, and the better class will have it no other way.

While in the fruit markets of France I had repeated opportunities to sample the fruit, and the most of it seemed to me to lack quality. Their pears were large and fine, and while they have the reputation generally of possessing such good quality, all that I sampled were off flavor, if, indeed, they ever had any. I may have been out of season for their best varieties.

I believe we have in Ontario a country that cannot be surpassed for the superior quality of its fruit. But I must emphasize the all-important matter of paying more attention to putting it up — only strictly first-class, and have attractive packages, so that it opens up tempting. Here, where fruit is so cheap, we have not realized the importance of this. The fruit-growers of California realized its importance years ago, and now they have a reputation established and their fruit is found in all the principal cities of America and Europe. While we cannot expect to grow fruit here that will possess the keeping qualities of theirs, we can grow fruit of a superior flavor, and no doubt by judicious spraying the keeping qualities of many kinds can be very much improved.

If the transportation companies from Montreal do not give the fruit-growers better and faster service, in the near future the trade will divert to Boston and New York, where better and faster service can be secured.

Lincoln and Niagara Co., Ont.

Orchard Management.

Apple-growing in Canada to-day is assuming such proportions that it demands attention as one of our most important industries. The position taken by our apples at the recent Paris and Buffalo Expositions was not only a surprise to foreigners, but to Canadians as well. We might with some profit ask ourselves one question, Why did our fruit take such a position? There is only one answer: Quality. The superior quality of our exports is what is giving Canada her place in the world's markets, and it is of the utmost importance that we as farmers leave nothing undone to maintain that virtue for our apples, and the old "happy-go-lucky" method will not do to-day. At this season of the year the pruning ought to be disposed of to leave everything clear for early cultivation. In pruning, avoid the forming of crotches; give your tree an evenly-balanced top and reasonably open for admission of sunlight and a free circulation of air, and do so rather by thinning than cutting the heart out of your tree.

Many are planting at this season. The apple will do well on many soils, but a clay loam, with a northern or eastern slope, is preferable, and your soil must be either naturally or artificially well drained. The soil should be made rich and be in a good state of tilth. Dig a roomy hole for your tree, putting in some of your best soil first; then putting the tree roots as nearly as possible in their natural position, fill the hole with more good soil, working it amongst the roots with your hands, and make thoroughly firm, except the last two inches, which should be left mellow and kept so through the season by using the hoe. Considering that a great part of the root has been taken from the tree in transplanting, it is thought best by many to also deprive the tree of part of its top to balance the relation between the root and the top. In doing so, don't take part of every limb off the tree, but rather thin the branches, taking part of them all off rather than all of them part off. For three or four seasons plow deeply in the spring, to produce in your trees the habit of rooting deeply. A straw crop should not be put on a young orchard (it is very exhaustive upon the moisture), but a hoed crop; then you can cultivate, and retain the moisture much better.

You have planted your orchard for apples. Then raise as many as you can and as good as you can, and don't try to grow anything else upon your bearing orchard. Begin cultivation as soon as the soil is fit. This is necessary to retain every bit of moisture possible. A grown apple tree consumes very large quantities of water per day, so let us begin early and save all we can. Cultivation also improves the tilth of

POULTRY.

Eggs for Hatching.

The mating season is now once more with us, and in order that we may have the good fortune of owning a nice large flock of well-matured pullets that will begin operations early next fall, we must at this season exercise extreme care in selecting our breeders and in choosing the food that is to be supplied them during the period of time that we are gathering eggs for hatching purposes. In the majority of instances too little attention is paid to these two most important points, and as a consequence, instead of the individual members of the flock being each year built up in constitution, and as a consequence the flock greatly improved, as a whole, it gradually degenerates and sinks to the level of the "scrub."

In breeding poultry it is just the same as in breeding any other kind of stock—"like begets like"—and it has been found out that if we desire to secure good strong, healthy, promising chicks, the stock selected to produce the eggs from which these chicks are to be hatched must have these same constitutional characteristics. In the first place, none but healthy and fully-matured birds should be used. Fowls that have been stunted by disease, neglect or abuse, or whose constitutions have been weakened by too close inbreeding, should be discarded, as they will not lay eggs containing germs likely to produce healthy and vigorous chicks. Pullets that are not matured, or that have been forced to too early laying by stimulating foods, and as a natural consequence have had the system overtaxed, will not make good breeders, and hens that have become so old that they have dropped their wisdom teeth are also poor specimens for a breeding pen. By rights nothing but fully-matured pullets and one and two year hens should be used for females, and these strong, well shaped, and healthy.

For the male side select a strong, well-matured, vigorous cockerel or yearling cock, not too closely related to the females. If the cockerel has never been allowed to run with any females until he is mated in the breeding pen, all the better, and if you can get a cock that was never used as a cockerel, better still. Considerable has been said as to the number of females to each male, and opinions are much divided. Last year we had an interesting experience along this line. At the first of the season we had fifteen two-year Plymouth Rock hens mated with a two-year-old cock. From six settings of eggs from this mating not a single egg was fertile. We immediately mated these same fifteen hens with a vigorous young cockerel, and from this mating nearly every egg was fertile and hatched strong, healthy chicks. In another yard a Brown Leghorn cockerel was mated with fifteen hens, and nearly every egg hatched.

Care should be exercised in feeding and in choosing the food for breeding pens. If the fowls have unlimited range, as a rule there is little difficulty in securing fertile eggs with good, strong germs. But quite often they do not have this unlimited range, and then it taxes us to supply them in a natural way. Fowls, either male or female, should not be too fat if we want fertile eggs. If they are yarded we should provide some means for exercise, such as scratching in litter for their hard grain rations. If these yards are bare of grass they must be supplied with something as a substitute. For this, green mangels, sugar beets and cabbage may be successfully used.

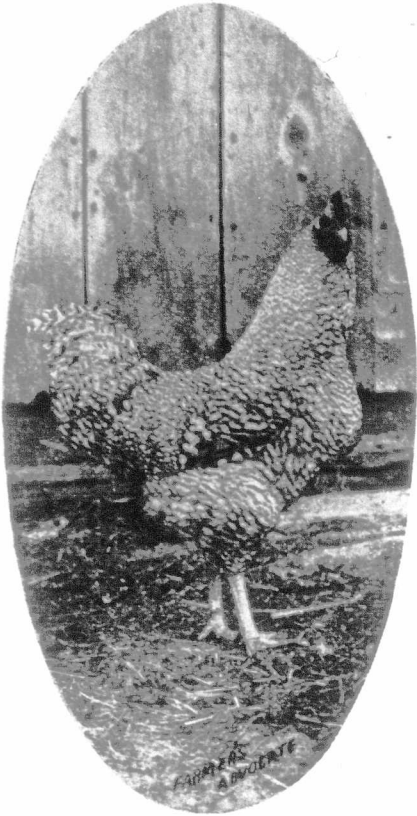
Hens that are roaming the fields in the spring and summer secure a grand mixture of food from which to manufacture their eggs, and, along with other things, they secure a great number of worms, grubs, bugs, etc., which contain the needed albumen to produce fertile and strong germs. These they do not generally get when in limited yards. To make up for this loss we should supply them with all the meat scraps from the table, with milk to drink, and with a small quantity of green cut bone if possible. These same foods give vigor to the male as well as the females.

By exercising care along these lines and using pure-bred fowls, one cannot fail in producing a handsome, vigorous flock.

Wentworth Co., Ont. JOHN B. PETTIT.

Hurrah for the Hen!

Sir,—The old-time Canadian farmer paid little or no attention to the hen business, and left it to the women folks. With the fall in price of wheat, they turned their efforts to hog and beef raising. The younger farmer finds that for capital invested, there is more profit in poultry for eggs and meat, and to-day the value of the hen product is greater than that of hogs or bees; it is also greater than the wheat crop. Some of the farmers' journals have not paid the attention to it that it deserves, and better methods of feeding and management are required. I know of one young farmer at Bond Head, Ont., who converted wheat at 65 cents into eggs and meat, and made the wheat worth \$1.25. FRED HARTRY, York Co., Ont.



BARRED PLYMOUTH ROCK COCKEREL.

Imported from A. C. Hawkins, Lancaster, Mass., by A. B. Armstrong, Codrington, Ont. Now at head of No. 1 pen.

the soil, liberates plant food, and keeps the weeds from competing with the tree for moisture and food. This cultivation should, however, stop not later than the latter part of July. If continued, the woody growth would be stimulated, and might not ripen enough to withstand the winter. We also want at this time to begin making preparations for winter, and will sow something for a cover crop. If our trees are needing nitrogen, soy clover or some other of the nitrogen-gathering plants. If nitrogen is not needed, barley is a good crop, as it grows considerable bulk and does not cut early with the frost. It makes a good trap to catch the falling leaves, holds the snow, and in spring can easily be incorporated with the soil by using a disk harrow. This cover crop is of value also for taking up the plant food that active cultivation has to some extent liberated, converting it into vegetable matter, which, when incorporated with the soil, imparts a benefit which nothing else does. This question of vegetable matter in our soils is the most important one that we have to deal with to-day. It is the secret of successful farming and not only retaining but regaining soil fertility.

No intelligent farmer expects to raise a grain crop upon the same field season after season without fertilizing, and yet many expect the orchard to give profitable returns without adding anything in the way of manures. If your orchard in twenty years should yield you 225 bushels of apples per acre, you would take from the soil more plant food than would 15 bushels of wheat per acre for twenty years, allowing 7 pounds of straw for 3 pounds of grain. We cultivate so carefully for wheat and expect so much from the orchard for no outlay! There is nothing equal to barnyard manure, as it contains the needed elements, and adds so much vegetable matter to the soil. But this is often hard to get. It will pay most of us to spare some for the orchard each year, and try to get over at least once in three years, but don't neglect the growing of an abundant cover crop. Aside from the protection during winter, the incorporation of vegetable matter is of the utmost importance. Wood ashes are also a very cheap manure, the potash entering very largely into the apple formation. Scatter them under the tree; don't pile them next the trunk. A bushel applied annually to each tree will be a great help.

We may do all this and yet get a crop of apples that is not much of a pleasure to look at nor profit to sell, because of the ravages of insects and fungi. A healthy, vigorous tree resists these attacks much more effectually than a weaker one, but it takes the added skill of man to effectually combat these enemies. The spray pump in the hand of a competent man is the most successful method yet devised. Five applications ought to give satisfactory and very profitable returns. The cost will be about ten cents per tree for the five applications, and the gain will be not only in quality, but quantity as well, for a perfectly healthy apple will be much larger than an infected one. Have your Bordeaux mixture thoroughly prepared, and use plenty of pressure on your pump—it will do better work and save material. You can delay almost any work upon the farm with less loss than that of spraying. Have your material on hand in good time, and when the proper day comes, spray that day.

Oxford Co., Ont. F. M. LEWIS.

Spring Feeding of Poultry.

The great consideration in poultry feeding is to get fertile eggs in the spring. Unless we do we cannot get good strong stock, nor a large percentage of eggs to hatch. The fault is, as a rule, farmers feed too much grain in winter, the result being that both male and female birds are too fat, and few, if any, hens have laid during the cold weather. To get them in condition the fat must be reduced by exercise and less feed, which is both economy and profit. Suppose we take a flock of fifty and weigh six or eight and note weight and condition. If fat they must be reduced, if poor they must be brought up with corn.

Our next consideration is the inspection of the poultry house. If the droppings have accumulated, clean them out; if floors are filthy, take the hoe and broom and generally clean up. Run the hand under the roost-perches, and if mites (the red spider lice) are in the house you will find them there; there or not, paint the roosts well, top and bottom, with coal oil. There is no profit in feeding lice. If you find a good crop repeat the coal oil three times a week for two weeks, and then once a week as a precaution. No flock can be handled to advantage in a lice-infested house. After cleaning up, put in straw or chaff on the floor, and make a mixture of quicklime, one peck; sulphur, one pound, and carbolic acid, one ounce (crude); mix well together and scatter in the chaff and litter on floor, in the nest boxes and cracks in the wall.

Then begin with hens and pullets in fair condition. For 12 hens—Morning, feed three handfuls of grain in the chaff, well scattered and turned under, at least four inches deep, then give a mangal cut in half. At noon scatter a teaspoonful of millet seed to make them work. At night give all they will eat of cut clover hay, in half-inch lengths, with half the amount of bran and oat or barley chop scalded at noon and well mixed. Next morning give a pound of boiled meat, liver would do; beef head at ten cents is cheap. At night let them have a pint of wheat in the litter. Next morning give 1 lb. of cut bone if you have a cutter; if not, give grain same as first morning, but change the grain; also let them have a turnip, cut or pulped. Two nights a week give of bran two parts, ground oats one part, oil cake half a part, scalded and mixed crumby; allow a pint of it to 12 hens, then go back to the clover, and always feed a change of grain. For farm stock, when the grass is high enough to pick, leave out the scalded clover and feed the meat and bone twice a week, and the bran mixture the balance of the week, at night, and let them pick their grain and seeds. F. H. N. Ontario Co., Ont.

Pleased.

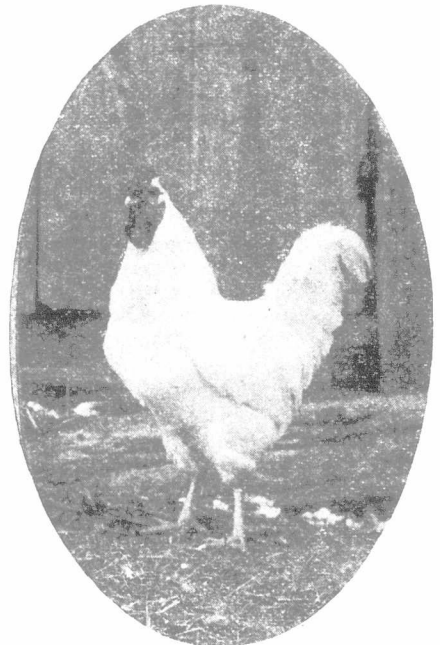
I received, by mail to-day, the premium, No. 2 Teacher's Bible, for which please accept my hearty thanks. I shall endeavor to get more subscribers for the valuable paper.

Wellington Co. R. B. STEWART.

Langshan Hens Asked for.

Would you kindly tell me, through the "Advocate," where I can get Langshan hens? Muskoka. DAVID HARRISON.

Ans.—Write, mentioning "Farmer's Advocate," to the Dentonia Park Farm, Toronto, whose advertisement appears elsewhere in this issue, and to R. J. Laurie, Wolverson, Ont.



WHITE WYANDOTTE COCKEREL, SNOWBALL. Imported from A. C. Hawkins, Lancaster, Mass., by A. B. Armstrong, Codrington, Ont.

APIARY.

The Beekeeper's Work in April.

As the vernal equinox comes and goes, stormy weather is replaced by balmy days, and old Sol begins to assert his rights. Among the many signs that spring has arrived, none are more convincing than the hum of the busy bees as they hie away to the pussy willows, soft maples, black alders and other early pollen-producing plants. One of the interesting things for the beekeeper to watch for each spring is the first appearance of fresh pollen; indeed, I cannot conceive of any one who would not be interested in watching the busy little workers hustling out of the hives and returning laden with bulky loads of various-colored pollen. April has been called by someone the "let-alone month," as far as work with the bees is concerned, and there is a deal of truth in it, as I believe more harm is done by too much manipulation than by too little in this month.

However, there is some necessary work, and, as a noted apiarist has said, the most important motto for a beekeeper is "know what to do and do it in time," we will consider briefly what should and what should not be done. Of course, if the bees have been wintered indoors and have not been put on the summer stands ere this, the first warm day they should be carried out. Beekeepers differ as to the right time to bring the bees out of the cellar. The old orthodox rule was to place them outdoors when the soft maple comes in bloom, and it is probably about as near right as any set rule can be. In carrying them out, some are very careful that each hive shall occupy the same stand as they did in the fall, while others pay no attention to this; no doubt much confusion is avoided if all occupy same stands as they did previously. If all have sufficient stores (which can be determined as they are carried out), entrances should be contracted, and, if possible, some dry packing should be placed over the brood nest, such as a cushion filled with sawdust or other dry material; then leave them severely alone. I know some do not think it necessary to provide any protection for the bees in the spring, but remember the many thousands of workers to be raised to insure a honey crop, and that one of the most essential things necessary to help along brood-rearing at this time of the year is conservation of heat, as a brood nest at normal temperature ranges somewhat about 90 degrees Fah. Personally, I lay great stress on the matter of keeping bees as warm as possible as long as we have cool days and chilly nights.

If any colonies are short of stores, they should be marked and attended to as soon as possible. The best way is to give them sealed stores if you have them on hand; if not, sugar syrup can be put in combs and then placed in the hives. Under no circumstances think of feeding with a view to stimulating during this month, as you will excite the bees unduly, cause them to fly out in unseasonable weather in search of water, etc., and for every young bee raised, half a dozen old ones will be worn out. Colonies that have been wintered on the summer stands should have hive entrances contracted, and the same treatment as regards stores as given for indoor-wintered colonies. The best way is to be sure in either case that all have sufficient stores in the fall to last till fruit bloom. If all have their full complement of frames and appear from external conditions to be all right, they will need no further manipulation for some weeks; if, however, they have been contracted in the fall (as they should have been), the stronger colonies may need more room. This can be given by simply shifting the division board over and giving the necessary frames. Never tear apart the brood nest at so early a date nor expose the bees unnecessarily. If any colonies do not appear to be doing right—i. e., very few bees flying when others are busy, appearance of drones or other unnatural conditions—such colonies should have a hasty examination some day when the thermometer is at 70 or above. Drones flying so early is a sure sign of a failing queen, if not queenlessness. While it is possible to get queens from the south in this month, I doubt if it pays from a financial standpoint. If a queenless colony is sufficiently strong, they can often be held together by giving them a comb with eggs in; of course, you need expect but little profit from a swarm that is queenless in the spring. Do not attempt, as yet, at least, to double up or try to strengthen in any way any weak colonies you may have; leave them alone for the present. As intimated in the beginning of this article, there is more danger of fussing with the bees too much than of not giving them needed attention. Particularly is this true of the beginner; if he has a bad case of bee fever, no doubt it will be quite a trial to keep from looking through the hives from time to time to see how they are getting along. I can speak from experience in this matter, and I feel sure that it is to the detriment of the bees when we give them such unseasonable attention. If not previously done, frames should be wired, foundation put in sections, and frames and other things got ready for the honey-flow in June. Don't wait till next month to do this work, as May brings work of

its own. Our honey-flow often comes with a rush, and sometimes lasts only a few days. As it is not pleasant to be caught with "our porridge dish upside down," it is well to be prepared for emergencies.

April is a good time to look ahead for bee pasturage. While no honey-plant has ever been cultivated with profit for honey alone, yet some honey-producing plants can be raised on the farm at a profit. Chief among these is alsike clover. If you do not care to raise it for seed, at least sow some in your meadows, and persuade (if you can) your neighbors to do likewise; if they are not so disposed, sweeten them up once in a while. All wise farmers make provision for the wants of their live stock. Be as thoughtful in regard to your bees, and I think you will find that they pay you for your forethought as well as in other cases.

J. L. BYER.
York Co., Ont.

QUESTIONS AND ANSWERS.

1st.—Questions asked by bona-fide subscribers to the "Farmer's Advocate" are answered in this department free.

2nd.—Our purpose is to give help in real difficulties; therefore, we reserve the right to discard enquiries not of general interest, or which appear to be asked out of mere curiosity.

3rd.—Questions should be clearly stated and plainly written, on one side of the paper only, and must be accompanied by the full name and address of the writer, as a guarantee of good faith, though the name is not necessary for publication.

4th.—In veterinary questions, the symptoms especially must be fully and clearly stated, otherwise satisfactory replies cannot be given.

Veterinary.

INAPPETENCE IN COW—WORMS IN MARE—
FOOD FOR PIGS.

1. I have a cow due to calve the last of this month. She was always a hearty cow until lately. We have been feeding her hay, straw, and a peck of turnips a day, and now she won't eat anything but straw, to speak of. What could I give her to make her eat, as she is getting very thin?

2. I also have a mare that passes white worms about two inches long; she seems dull and pretty thin. What could I give her for to kill the worms?

3. We are feeding our pigs sliced turnips in the morning, boiled potatoes with crushed barley in them at noon, and crushed oats at night. Some people say round oats would be better at night. What do you think is the best, round or crushed?

I am a new subscriber to your paper, and I think that it is well worth a dollar a year, as I consider the Veterinary Department worth the money.

H. L.
P. E. Island.

Ans.—1. Give the cow, three times daily, a powder composed of one dram each powdered sulphate of iron, gentian and nux vomica. Feed on good hay and give bran and pulped turnips in reasonable quantities.

2. Get the following prescription for the mare: Pulverized sulphate of iron, 1½ oz.; pulverized sulphate of copper, 1½ oz.; tartar emetic, 1½ oz.; calomel, 1½ oz.; mix and make into 12 powders. Give a powder every night and morning. When the last has been given starve the horse for 12 hours, and then give a purgative of eight drams Barbadoes aloes and two drams ginger. Feed bran only until purgation begins.

3. I consider crushed oats the better.

J. H. REED, V. S.

ABSCESS ON HEIFER'S SIDE.

I have a heifer; when two months old I noticed a lump on her side; in about two months I opened it and black blood escaped; in a few hours it commenced to turn inside out and black flesh drop away in chunks. It healed up, but started to grow again, and is now about the size of a saucer.

Ans.—Your heifer received a blow on the side, and this caused a serous abscess; some small blood vessels were wounded, and the blood escaped into the sac. The internal cavity had not quite filled when the skin healed, and it is probable a little pus was imprisoned, which acted as a foreign body and caused the present abscess. Open it up freely and flush it out with carbolic acid one part, water fifty parts. Inject some of this lotion into the sac every day, and do not allow the skin to heal until the cavity is entirely filled with healthy tissue.

STEER WITH SORE LEG.

I have a feeding steer that has gone wrong in one of his front legs. I suspect it is the result of heavy feeding. The only symptoms presented are a swelling and soreness of the leg. It resembles a grease leg in horses.

Ans.—Your steer has injured his leg by lying upon it, probably having worked the bedding backwards before lying down. Put him in a box stall, where he will have plenty of room, and give him plenty of straw for bedding. Bathe the leg long and frequently with warm water, and the soreness and swelling will disappear. Do not be surprised if the knee remains large and soft to the touch. There probably is a serous abscess, which will not interfere with him, but if opened will cause trouble.

J. H. REED, V. S.

SKIN DISEASE IN COLT.

My colts broke out last spring and ran for about 4 miles. When they returned they were very warm. One of them, a short time afterwards her right shoulder and side became covered with little pimples, which disappeared during the summer, but have returned this spring. I am feeding cornstalks, hay, and a little grain.

G. B. N.
Elgin Co., Ont.

Ans.—The first appearance of the pimples was doubtless a sequel to overheating. The present crop may or may not have any connection with the first. It is most probably due to an alteration in the condition of the blood, and requires both local and constitutional treatment. Give the affected parts a thorough washing with warm soft-soap suds, and rub her until dry; keep comfortable and excluded from drafts for a few hours after washing, then apply, twice daily, a solution made of one part creolin to 40 parts water. The lotion must be well rubbed in in order to get it directly into the skin. Give her a purgative of four to eight drams aloes, according to size, and two drams ginger. After the bowels become normal, give 1½ ounces Fowler's solution of arsenic on crushed oats or other soft food twice daily. Do not feed any more cornstalks.

J. H. REED, V. S.

PARTIAL IMPOTENCY IN STALLION.

A ten-year-old stallion produced but few colts last year. He will serve from two to four mares, and then may refuse. He is in good condition, strong and healthy.

A READER.

Ans.—Impotency in stallions is in most cases either congenital or the result of excessive stud service when young. The administration of drugs to increase venereal appetite by irritating the generative organs will cause him to apparently perform the functions of a sire, but a service under such conditions will not be fruitful, and is doing an injustice to the owner of the mare, as he certainly desires his mare to produce, and when the stallion selected is impotent he should have the opportunity of selecting another. I would advise you to give your stallion plenty of exercise, feed well on good hay and oats, with a feed of dampened bran three times weekly. Do not allow him to go to more than one mare daily, and if he will not serve well give him a mare only once in two days. The administration of drugs is injurious to the stallion and dishonest to the owners of mares.

J. H. REED, V. S.

PROBABLY DEAD FETUS.

I have a mare due to foal on April 28th. On the 28th of February milk and wax began to run from her teats, and she had all appearance of approaching parturition. She is now very large. She does not lose so much milk as she did. She is considerably swollen under the abdomen. She passed blood on two occasions in January. She is quite hearty. I fed her one pint of wheat and straw up to the middle of February. Since then I give her two quarts of wheat and hay. She is getting thinner, yet in good condition.

Ans.—It is very probable the fetus is dead. Cease giving the mare wheat. Give her good hay and crushed oats and bran. Give her regular exercise and watch her closely. She is liable to be sick at any time. When evident symptoms of parturition are manifested, if spontaneous delivery does not take place send for your veterinary obstetricist at once. You can do nothing in the meantime, and the treatment after parturition will depend upon complications occurring.

J. H. REED, V. S.

OPHTHALMIA AND SORE NECKS IN HORSES.

A three-year-old filly is troubled with sore eyes every spring. She becomes partially blind for a time. The eye is a dark blue color, and some inflammation appears in the corner. It appears to come on when the sun is very strong. Also my horses are troubled with sore necks, particularly when worked to the binder. The neck gets raw and small abscesses form. I have used carbolic acid and water, five to one, with good results, but would like something that would harden up the parts and prevent soreness.

Ans.—Your filly suffers from a constitutional disease called periodic ophthalmia, which will probably sooner or later terminate in cataract and consequent blindness. Nothing can be done to prevent the attacks, but it is possible she may outgrow them. When she is affected keep her in a partially darkened, well-ventilated stall, give a laxative of six or seven drams aloes, and feed lightly. Bathe the eyes with warm water and put a few drops of the following lotion into each eye twice daily: Sulphate of atropia, 5 grs.; distilled water, 1 oz.

The soreness on the horses' necks is, of course, the result of pressure from the collars. Your treatment seems to give good results, but I would expect better results if you used less carbolic; one to twenty is considered quite strong enough. No application will harden the skin so as to prevent the soreness. All that can be done is to keep the parts thoroughly clean, and also have good fitting collars, kept clean. Washing the necks frequently with cold water and lifting the collars forward so as to allow the air to circulate through the hair when the horses are standing or in the stable is good practice.

J. H. REED, V. S.

COLTS WITH A COUGH.

I have a pair of two-year-old colts which I recently drove about seven miles and put them in a warm stable, but did not blanket them. Each of them now has a bad cough. I am giving them pine tar. Will I continue it, or what would you recommend.

J. M.

Muskoka, Ont.

Ans.—Your colts have a trouble that is very common in many sections—a form of influenza or laryngitis. Keep them comfortable and feed on soft food. Rub their throats twice daily for three days with the following liniment: Raw linseed oil three parts, oil of turpentine three parts, liquor ammonia Fortier one part. Give two-dram doses of chlorate of potash three times daily. Do not expose to damp or cold weather. A little gentle exercise in fine weather is beneficial.

J. H. REED, V. S.

COLT WITH DEFORMED LEG AND FOOT.

I have a two-year-old colt that when foaled was weak, but straight, in the fetlock. Since that time it has gone over at the fetlock, until it is quite crooked. Its knee is also starting to go crooked. It walks on one side of the foot. I had a shoe on one side of the foot which straightened it considerably when standing on the hard floor, but when I let her out she loses the shoe. If there is anything made for this kindly let me know.

C. C. C.

Hastings Co., Ont.

Ans.—It is not probable anything can be done for your colt. If the case had been properly treated at first with appliances especially adapted for the case, the limb might have grown straight, but the limb has become so deformed at two years old that no appliances would effect a cure. Even in young colts with deformities of this nature it is usually unprofitable to treat, as appliances to suit each case have to be made, and a great amount of attention is required in order to prevent scarification and injuries from the splints, etc. Your colt is not likely to be of any use, and I would advise you to destroy him.

J. H. REED, V. S.

Miscellaneous.**SAVING GIRDLED FRUIT TREES.**

I would recommend as follows for trees girdled by mice:

Prevention is much better than cure, and the injury done by mice may all be prevented by keeping orchards well cultivated during the early part of the season, so as to offer no harbor for the mice. The cover crops which are sown late in the season will not harbor mice, as they bear no seeds, are green and sappy, and do not afford a good place for them to build their nests. In addition to this, old fence bottoms surrounding the orchard should be cleaned up to prevent their harboring there. If these cannot be entirely cleaned, then the trees nearest them should be protected by placing a band of tin about the trees in the fall, or by tramping the snow firmly around them in the winter.

Trees which have been injured by the mice may often be saved, if they are not entirely girdled and are taken in time. The injured portion of young trees should be covered with a bandage of fresh cow manure or some other material which will keep the wounded parts fresh and prevent their drying out. If the girdling has not been too serious the cambium will grow in from the sides of the wounds and gradually cover the injured part. If the trees have been badly girdled, they may be saved by bridging the girdled part by scions inserted above and below it. These scions should be placed in the same as ordinary scions, having the cambium layers of scions and tree in contact. Several of these bridges should be put in, and, in time, they will grow together and completely cover the injured part.

If the girdled trees are too large to treat conveniently in this way, and the girdling is close to the ground, they can often be materially assisted by banking up earth around the injured part, so as to retain moisture as much as possible.

H. L. HUTT, Horticulturist.

Ontario Agricultural College.

SANDSTONE AND SHORE SAND FOR CONCRETE WALLS.

1. Could you tell me if our soft red sandstone would do (broken up well) to build concrete walls with cement? 2. Would our coarse shore sand mixed with cement make good concrete floors for stables? 3. Would a large percentage of coarse shore sand, with the broken stone mentioned above, make a good foundation wall with cement? 4. What proportions of the above ingredients would be used for floors and walls with cement?

W. S.

P. E. I.

Ans.—1, 2, and 3. Yes.

4. For walls, mix four parts coarse sand to one part cement, and use as much broken stone as possible. For good stable floor, mix four parts coarse sand to one part cement for first layer, and two to one for top coat. Mix sand and cement thoroughly before adding water, and ram all work very firm.

SOME SILO QUERIES.

1. Would a wooden silo keep better if built inside the barn? 2. Would the ensilage be a better quality provided the silo was inside the barn? 3. If built outside, would you advise a stone foundation, say eight or ten feet from the ground? 4. Would a silo twenty-eight feet high and nine feet across be big enough for a hundred-acre farm? 5. How many acres of good corn would it take to fill a silo that size? 6. Do you know of any case in which the cow's teeth have decayed from eating ensilage?

J. S. S.

Halton Co., Ont.

Ans.—1. Probably the wood would keep better inside the barn than if exposed to the weather. 2. The only difference in the quality would be that in an out-of-door silo the silage may, in very severe weather, freeze for a few inches on the outside, and though this, if thrown into the stable and left to thaw out, appears to be all right and is readily eaten, yet it may not be quite as good as if it had not been frozen. 3. No. We have never known silage to keep well in a stone silo, and would not risk it. 4. A round silo 10 feet in diameter and 28 feet high holds about 42 tons. A fair to good crop ranges from 12 to 20 tons per acre. 5. A good deal depends on the cultivation and the richness of the soil and on the number of cattle to be fed as to the silo requirements for a 100-acre farm. About three acres of good corn ought to fill such a silo as you describe. 6. We have never known any injury to the teeth from well-matured corn cut in half-inch lengths. Immature corn generates more acid, and is more likely to be injurious.

A LENT DOCUMENT.

1. I wish advice in regard to an agreement between a man and myself. I bought a young team from G. He told me that they belonged to his brother, but he had the selling of them; that if I bought the team he would give me, with the team, their mother's pedigree, so that I could get the filly recorded. I paid him for them, and got a receipt. I did not get the pedigree for three years. A year ago this March I received it through the post. Just one week after he called at my place and got from my wife the pedigree, stating that he wanted to copy it, and that he would return me the copy. I have got no word yet. How can I recover it? 2. Can I handle him for false pretences, or not?

E. D. G.

Oxford Co.

Ans.—1. You should go to the party and demand return of the document, and in the event of his refusal or failure to make such return, you could bring action against him for same and damages for the detention of such document.

2. No.

WIDENING A BARN.

I have a barn widened by sawing lengthwise (60x36, 18-foot posts), changed to 60x60, 24-foot posts. We moved it on the foundation after the sleepers were in place and floor laid, being safer working. We jacked it up, put 6 feet to posts, leaving one side in its place, well propped; chained temporary girts to posts on the other side for rollers to work under, and leave ends of posts close to sill. We had four beams to cut and eight posts 36 feet long to put up in center. We cut beams 20 feet from side we moved out, had temporary posts under near cut end of beam, with plank and 3-inch rollers under it, then moved out far enough to put on posts and high plate. We spliced the beams on the other side to make them 20 feet, then moved out, put in end girts, drew together, put on rafters, and spliced them between plates. This gave me a barn 60x60, 24-foot posts, 42 feet to ridge. We were five days with builder moving rig, \$6 per day—\$30—and seven men at what you can get them for. The framing was partly done before.

Grey Co.

WILLIAM WHITELEW.

CONTRACTS IN FRENCH.

Can a contract concerning the renting of a house or farm or any kind of bargain be written in the French language and be valid in Ontario?

Ans.—Yes.

LOOKING FOR A TEAM.

Would you please send me the name of some sale stables, as I want to get a team of horses? St. John Co., N. B.

F. DUNCANSON.

Ans.—W. Harland Smith, Grand's Repository, Toronto, Ont.

BLACK SPANISH EGGS.

Where can we get pure Black Spanish eggs, and the price?

WILLIAM GILLESPIE.

P. E. I.

Ans.—Write poultrymen advertising this breed of fowls in the "Farmer's Advocate."

COAL ASHES AS A FERTILIZER.

Please let me know, through your valuable paper, whether coal ashes is of any value to land? If so, on what kind of land would it give the best result? What fertilizer do they contain?

Brant Co.

READER.

Ans.—See reply to similar query in this issue.

GONE ASTRAY.

Frank Loftus—Letter of enquiry re Mammoth clover and management of crops this season went astray. If replies would still be of service write us again.

TURNIP GROWING AND FERTILIZERS.

Which variety of field turnips do you think would produce best results on clay loam soil, having in view marketing the best of crop, feeding balance? What is the best artificial fertilizer for the turnips, and what amount of seed per acre? What is the best time for sowing, early or late spring? Please name best make of corn planter and fertilizer distributor, and the best artificial fertilizer for corn, where no barnyard manure is available, and with a view of getting the largest percentage of benefit from the fertilizer the first year. What amount per acre?

Montreal, P. Q.

J. A. K.

Ans.—With regard to varieties of turnips, I may say that the Westbury Improved is generally regarded as a fine turnip for shipping, but Hartley's Bronze-top has proved a better yielder here, and is also of good quality, so that I would feel inclined to recommend the latter.

The fertilizer question is an extremely difficult one. There are so many brands of fertilizers, and so many different conditions of soils, that it is almost a hopeless task to attempt anything like experimental work with them. A fertilizer that will give best results in one place may give the poorest in another, owing to the fact that soils differ in the plant food in which they are deficient. Therefore, it becomes practically necessary for each man to work this matter out for himself.

We prefer to sow about the middle of June. In many seasons, early sowing will give just as good results, but early-sown turnips are more likely to be attacked by plant lice, and in some seasons they are not of as good quality.

I do not feel competent to recommend the best corn planter or fertilizer distributor. There are many of these on the market, and if your correspondent deals with a reliable firm, I have no doubt he can get one which will work satisfactorily.

As to fertilizer for corn, probably sodium nitrate, applied at the rate of about 160 pounds per acre, would give as good results as any. It is not by any means certain, however, that a man will be paid by the increase in crop for the fertilizer applied.

G. E. DAY,

Ontario Agricultural College. Agriculturist.

HOMEMADE BONE DUST.

1. Would it pay a farmer having, say, half a ton of bones, to make them into superphosphate? What quantity of sulphuric acid would be required, and how should the fertilizer be prepared?

2. Would you give the amount of phosphoric acid and potash in the ashes of the following woods: Red oak, white oak, chestnut, maple, and bass? Are the ashes from the bark of more value than those from the heart wood?

Wentworth Co., Ont. FREDERICK RANSOM.

Ans.—1. I do not think it will pay to treat so small a quantity of bones with sulphuric acid. A good way to decompose bones is to place them in a box with alternate layers of wood ashes, and moisten the whole of the mass from time to time with water. In a comparatively short time the bones will have decomposed so thoroughly that they will mix evenly with the ashes. Of course, the smaller the bones, or the finer they are broken, the more quickly they will decompose.

2. The amount of phosphoric acid and potash in the ashes of various kinds of wood will vary somewhat with the nature of the soil upon which the trees grew, the part of the tree from which the wood for the ashes was obtained, and with the treatment of the ashes themselves. In Part IV. of the Ontario Agricultural College Report for 1897, the compositions of body wood of a number of Ontario forest trees are given. From it, the following figures are taken:

	Phosphoric acid.	Potash.
Oak (red).....	.92	5.75
Oak (white).....	1.69	9.39
Maple (hard).....	2.03	9.31
Maple (soft).....	1.29	9.52
Basswood.....	5.28	9.39
*Chestnut.....	6.76	18.00

*Handbook of Experiment Stations, U. S. A.

The ashes from the bark are usually reported as containing from 1-7 to 1-2 as much of the fertilizing constituents as the ashes from the body wood.

R. HARCOURT.

Ontario Agricultural College.

IS CALF IMPORTED?

I am thinking of buying a calf that was dropped in quarantine. Is it a genuine imported calf, or not?

Norfolk Co.

Ans.—Calves begotten in Great Britain and born in Canada are registered in the Dominion Shorthorn Herdbook in the list of imported animals as "imported in dam," and the breeder in Britain who coupled the parents is given in the Herdbook as the breeder of the calf. It is practically imported, and to dispute the fact is to quibble. The object in the statement, "imported in dam," is doubtless to avoid confusion, as such are not always registered in the English Herdbook, though they are eligible, and many such are registered there. Indeed, a good many American-bred animals have been registered in that book.

AGRICULTURAL VALUE OF COAL ASHES.

If coal ashes finely screened contain 7.2 per cent. of lime, 1.8 per cent. of phosphoric acid, 3.8 per cent. equal to phosphate of lime, 14.8 per cent. oxide iron and alumina, 7 per cent. potash, why should it not be useful on many lands? Can we have the experience of any who have had practical knowledge in this line?

Halton Co. SUBSCRIBER.

Ans.—Coal ashes will vary somewhat, according to the character of the coal producing them, but in any case the amounts of potash and phosphoric acid are very small. Thus we have for hard and soft coals:

	Potash per cent.	Phosphoric acid per cent.
*Hard coal ashes.....	.10	.10
*Soft coal ashes.....	.40	.40

*These figures are taken from "The Chemistry of Soils and Fertilizers."—Snyder.

It is evident, therefore, that in ordinary hard coal ashes the chief mineral elements of plant food exist, practically, in traces only, and certainly in quantities very much smaller than those in ordinary fertile soils. Further, these elements are not present in an immediately available condition, so that their value for supplying nourishment to crops is considerably less than might be deduced from the above data. They contain a small percentage of lime, but this is for the most part inert and insoluble, owing to its combination with silica. Consequently, they cannot be regarded as of value for furnishing this element. Coal ashes, however, are of service for wet, stiff, plastic clays. These they improve by rendering them friable, more porous and less difficult to work, as well as more favorable to root extension. It is said also that they are useful, from a mechanical standpoint, on bog soils. We cannot, therefore, regard coal ashes as a fertilizer, but that they have a distinct value for ameliorating the physical condition of certain heavy, sticky clays, there is no doubt. When we remember that the texture of a soil is as important a factor towards productiveness as plant food, it will not be difficult to understand why some farmers have attributed a high value to this form of refuse.

FRANK T. SHUTT,
Chemist, Dom. Exp'l Farms.

TREATING SEED PEAS FOR BUGS.

I have peas for seed, and cleaning them a few days ago found some pea bugs in them. How can I treat them so as to kill the bugs?

Simcoe Co., Ont. ALFRED HICKLING.

Ans.—The proper time to treat peas for the bug is early in the fall, when it is in the embryo state. Put from 10 to 20 bushels of peas in an air-tight box and set a pan on top of the grain containing one pound carbon bisulphide, which is sufficient to treat 15 bushels. Close the lid, making it air-tight if possible. The bisulphide will evaporate, the heavy fumes descending through the grain, and in two or three days will have killed all the insects. In a neighborhood where the bugs are bad, all the farmers should unite on this plan. But if this has not been done, and the bugs are very troublesome, better try sowing grass peas this season, for even if sound seed is sown and the bugs are in the neighborhood, the crop will be liable to be attacked.

WORMS IN HOUSE-PLANT POTS.

Could you tell me what to do for little worms in the earth of house plants? They are very much like the fine roots, about the length and size of a short pin. Have bothered geraniums mostly, but are starting at others. The buds blight, the leaves turn yellow and sickly looking, and plants soon die.

Oxford Co., Ont.

Ans.—Put piece of fresh lime in water, and when it slacks and settles, pour off and sprinkle the soil in pot freely with the lime water; also, instead of ordinary manure, use bone dust. One of our staff has found this plan very efficacious.

LANDLORD TRESPASSING.

I am renting 100 acres of land from B. Can B come on and cut down two or three hundred trees for lumber without my consent? If not, what would be the best thing for me to do?

Harrietsville, Ont. SUBSCRIBER.

Ans.—Not unless the right to do so was reserved at time of lease. A letter forbidding him would be in order, and if after receiving such letter he should persist in entering on the premises and cutting timber, or if he has already cut some, an action might be brought against him for damages.

MARKETS.

FARM GOSSIP.

A Good Appointment.

Mr. C. M. Simmons, of Ivan, Middlesex County, has been appointed a member of the Advisory Board of the Ontario Agricultural College in place of the late John McMillan, ex-M. P., Seaforth.

Experimental Union Tests in Agriculture.

The Ontario Agricultural and Experimental Union is prepared to distribute for experimental purposes, good seed of leading varieties of farm crops to an average of sixty-five farmers in each county and district of Ontario. Each person who wishes to conduct an experiment, and is willing to use great care and accuracy in the work and report the results of the test directly after harvest, should select the exact experiment desired and apply for the same as soon as possible. The material will be forwarded in the order in which the applications are received until the limited supply is exhausted. Although material for not more than one experiment will be sent to each person, it might be well for each applicant to make a second choice, for fear the first could not be granted.

LIST OF EXPERIMENTS FOR 1902.

- 1—Three varieties of oats.
- 2—Three varieties of six-rowed barley.
- 3—Two varieties of hullless barley.
- 4—Emmer (spelt) and two varieties of spring wheat.
- 5—Two varieties of buckwheat.
- 6—Three varieties of field peas for Northern Ontario.
- 7—Two varieties of bug-proof field peas.
- 8—Cow peas and two varieties of Soja or Japanese beans.
- 9—Three varieties of husking corn.
- 10—Three varieties of mangels.
- 11—Two varieties of sugar beets for feeding purposes.
- 12—Three varieties of Swedish turnips.
- 13—Kohl-rabi and two varieties of fall turnips.
- 14—Parsnips and two varieties of carrots.
- 15—Three varieties of fodder or silage corn.
- 16—Three varieties of millet.
- 17—Three varieties of sorghum.
- 18—Grass peas and two varieties of vetches.
- 19—Dwarf Essex rape and thousand-headed kale.
- 20—Three varieties of clover.
- 21—Sainfoin, lucerne, and burnet.
- 22—Five varieties of grasses.
- 23—Three varieties of field beans.
- 24—Three varieties of sweet corn.
- 25—Fertilizers with early corn for husking.
- 26—Fertilizers with Swedish turnips.
- 27—Growing potatoes on the level and in hills.
- 28—Two varieties of very early potatoes.
- 29—Planting cut potatoes which have and which have not been coated over with land plaster.
- 30—Planting corn in rows and in squares (an excellent variety of early corn will be used).

Material for either number 25 or number 26 experiment will be forwarded by express, and for each of the others it will be sent by mail.

C. A. ZAVITZ,
Agricultural College, Guelph, Ont.

Guelph, March 15th, 1902.

The Russell Co. Competition.

"T. J. G.," Russell Co., Ont., writes us regarding the trophy won (as reported in the "Farmer's Advocate" for Feb. 15th) by that county for making the best exhibits of live stock at the last fall fairs in the Ottawa Valley, that the Osgoode Agricultural Society, organized for over twenty years, did not hold an exhibition, but devoted the Government annual grants for the purchase of pure-bred male animals. To the results of this wisdom, he contends, was due the Russell County victory. At the Ottawa Fairs, members would purchase young pure-bred females (either cattle, sheep, or swine) and by breeding them to the pure-bred sires, soon established pure-bred herds and flocks. Besides this, the grade stock became of a very high order. The names of six members of the township society are given (by the secretary of the county society) who won 64 prizes, and, therefore, he contends to the township society belongs the credit of supplying the animals that won the victory. He contends that other societies should adopt this course, and so become feeders for the county exhibitions.

The Painting Season.

All travellers admire the thrifty appearance of a well-kept New England village, and it is safe to say that this is largely owing to the abundant use of paint upon the houses. With the advent of better times, we are about to enter upon the greatest painting era that has ever been experienced. It has become the fashion, almost a craze, to paint, stain and kalsomine, from a hygienic point of view, as well as the knowledge that the value of all buildings are enhanced by the plentiful application of good paint. This is a good sign, and farmers should take a day off before the busy season commences and "lay on" the brush. Old, rough buildings are vastly improved by a coat of some inexpensive paint. Most of the new buildings are sided with dressed lumber, and should all be thoroughly painted. They will look better, last longer, and be worth more to the owner. In fact, a building is not finished till properly painted. Vehicles and implements should also be brightened up before the warm weather begins.

Horses for the War.

Colonel Dent says that he has orders for as many horses as he can procure for use in South Africa. He shipped 761 in March, and expects to ship 800 in April. Since coming out last year he has shipped a total of 9,111. Cobs are the only kind he can accept for the mounted infantry. They must be from 14½ to 15½ hands high.

Notes from Ottawa.

UTILIZING BY-PRODUCTS.

During the past winter extensive experiments have been carried on in a butter factory near Cornwall, with a view of making the casein of the skim milk into different products, such as glue and paint, in large quantities. So far as carried on, the trial is successful.

GOOD ROADS.

The Good Roads Convention, held at Ottawa on the 13th and 14th inst., under the auspices of the Eastern Ontario Good Roads Association and the patronage of Their Excellencies, proved a grand success. Among the speakers were Col. W. H. Moore, president of the United States National Good Roads Association, and Hon. Senator Dodge, of Washington. One State in the American Union has given more towards getting good roads than the million-dollar grant made by the Ontario Government.

Mr. A. F. Wood, ex-M. P. P., Madoc, told how Hastings secured 400 miles of good roads, which had enhanced the value of all property in the county amazingly.

Mr. A. W. Campbell, Deputy-Minister of Public Works in Ontario, went thoroughly into the question of cost. He said that \$700 would be an average price for a mile of first-class road, but under certain conditions this might be reduced to half or it might cost a great deal more. The cost of making concrete culverts and the process of manufacture occupied a good deal of attention. The moulds for making the pipes cost about \$200, and Mr. Devitt, of Greenwood, explained that the making was a comparatively cheap process.

Addresses were given by Hon. Sidney Fisher, Minister of Agriculture; R. L. Borden, leader of the Opposition in the House of Commons; and Mr. A. Pattullo, of Woodstock.

A deputation waited upon Hon. Sidney Fisher to ask that a Department of Good Roads be established, and Mr. Fisher promised to look into the matter in the near future.

The following officers were elected: President, R. Cummings, Warden of Carleton County; Vice-Presidents, J. Brennan, Warden Renfrew County; Dr. W. J. Anderson, Warden Lanark County; L. Charbonneau, Warden Prescott and Russell; H. McMillan, Warden Stormont, Dundas and Glengarry; A. Brown, Warden Leeds and Grenville; Secretary, H. B. Cowan, Ottawa; Treasurer, Chas. MacNab, Ottawa.

HAY FOR AFRICA.

The Department of Agriculture has been advised from the Imperial War Office that shipments of hay from Canada to South Africa will not be required during the month of April. Therefore, it is expected that the Government will not have any orders to give out for April delivery, but they will commence to ship again in May, but not nearly on the scale of the quantity that has been forwarded during the winter.

LIME, SULPHUR AND SALT MIXTURE.

The recent interest evinced in the above spray as a remedy for scale insects generally has led Mr. Shutt, Chemist of the Central Experimental Farm, to investigate the various methods proposed for the preparation of this insecticide. He states that it is essential that all or practically all the sulphur should be combined with the lime. It seems probable that for the best results there should be almost twice as much lime as sulphur—that the whole of the lime should be boiled with the sulphur (and not added in part afterwards as now recommended), and that the boiling should be continued for two or three hours at least.

PRUNING AT THE EXPERIMENTAL FARM.

Mr. W. T. Macoun, Horticulturist at the Central Experimental Farm, is very busy overseeing the pruning of the fruit trees on the farm. Mr. Macoun states that pruned trees bear more regularly and produce fruit of better color and size, also larger quantities, when pruned regularly every year, beginning when they are young; but too much pruning injures the tree. When pruning, the top of the tree should be left open so as to admit the air and sunlight, and all branches which are growing across and through the top should be removed. If large limbs are removed, the wounds should be given a coating of red paint, which will protect them from the weather and prevent rot from setting in until they begin to heal over. Mr. Macoun says that the best time to prune is between the middle of May and the middle of June, when the trees are growing thriftily, but that it can be done quite successfully during the month of March, when there is more spare time on the farm.

POULTRY FOR BRITAIN.

Mr. F. C. Hare, Director of the Poultry Fattening Stations in Canada, states that the English consumer wants a chicken not weighing over five pounds, for if they have to buy a heavy fowl, they would sooner purchase a turkey weighing from eight to nine pounds, for the meat is more tender and juicy.

Mr. Hare has also prepared a model list for poultry prizes to be given at the coming fall exhibitions. Eight different breeds are included in the list, viz., White Wyandottes, any other variety of Wyandottes, Buff Orpingtons, Barred Rocks, Indian Games, Silver Grey Dorkings, Black Minorcas, and Leghorns. Fancy points will not be taken into consideration in judging the birds intended for table use, but they will be judged according to their merits suitable for the English market.

Farmers' and Dairymen's Convention at the Western Dairy School, Strathroy.

(Special.)

Mr. J. B. Muir, of the Ingersoll Packing Co., presided at the closing convention for the season.

"Seed Grain Selection."—Mr. J. S. Pearce, of London, stated that careful selection of seed might easily mean an addition of 200 per cent. to the crop. Changing seed from one soil to another was recommended. Cases were cited where red-clover seed was bought at ten dollars per one hundred pounds, containing seventy-eight per cent. of good germinating seed, whereas another sample, bought at five dollars per one hundred pounds, contained only twenty-four per cent. of good seed. The good seed of the first lot actually cost \$12.70 per 100 pounds; the good seed of the latter cost the buyer \$22.45 per 100 pounds. Farmers were urged to select their own seed, choosing the best-filled, most typical heads, ears, etc.

Prof. G. E. Day dealt with "Cultivation of Soil." The reasons for cultivation were: 1. To allow full development of roots. Soils are usually quite dry, so dry that no amount of pressure will express any water from them, and it is therefore necessary that the connection between the root-hairs and the particles of soil be very close. 2. To admit air, which is necessary to all vegetable growth. 3. To liberate plant food. 4. To assist bacterial growth. 5. To conserve moisture. In developing the idea of how to cultivate soils, the Professor dwelt upon the following points: Nature covers soil surfaces with vegetable matter. We find virgin soils loose and old cultivated soils hard. Clay soils if dried slowly do not bake as hard as if they dry very fast. Humus, or vegetable matter, prevents soils from drying so rapidly, and is particularly necessary in this respect on clay soils; therefore, get an accumulation of humus to prevent baking and to retain moisture. The presence of plenty of humus makes the "catch" of clover seed a comparative certainty. Some crops deplete the soil of humus and others increase the quantity. Of the former class are the cereals, corn and root crops; while the grasses and clovers belong to the latter.

A four-year rotation was given as follows: 1st year, hay or pasture; 2nd year, hay or pasture; 3rd year, roots, corn, potatoes and peas (or barley); 4th year, wheat, barley or oats.

If found necessary, part of the sod may be plowed in the fall and barley sown, thus reducing the amount of hay and pasture. Such sod after plowing should be heavily rolled, then harrowed, and allowed to rot and draw moisture. The manure is applied to the root and corn crops and to the poorer parts of the remainder of this section, the manure to be applied during fall and winter. Whenever a cereal is sown, clover seed is also sown to supply humus to the soil. When manure is put on in the fall it may be disked in and the land then ribbed up with double-mould-board plow. At the second round of the rotation, it must be remembered to put the hoed crops on the part of the section that was formerly in with a cereal. In this way we really have an eight-year rotation, and a miss of clover seed is the exception. The Professor pointed out that one of the excellencies of the rotation was its flexibility.

Deep versus shallow plowing was discussed. Deep plowing loosens soil deeper, allowing greater penetration of air, moisture and root, but dilutes the vegetable matter largely. Shallow plowing keeps the vegetable matter nearer the surface, and thus prevents baking to a great extent. The Professor pointed out the need of stirring the lower soil where shallow plowing is practiced, thus deepening the feeding ground. A caution was thrown out regarding sandy soils in this respect, as in many cases it is firming rather than loosening that is needed. The use of a "grubber" was recommended to stir the lower soil.

Q.—Do you use a subsoiler?

A.—No; but I think it is a good thing, only costly in time and labor.

Q.—Do you cultivate corn late in the season?

A.—Well, yes; but if early maturity is desired, I think it wise not to cultivate too late.

Mr. H. White, of Stratford, spoke on "Feeding and Finishing Hogs." The pen he most approved was a double-boarded balloon frame, with plenty of sunlight, and a wooden floor in preference to a cement floor. First crosses of Yorkshire and Tamworth were his favorites. Mr. White believes in feeding for seven or seven and a half months for the production of the best pork, and claimed that a hog could be fed to a weight of 220 pounds at seven months as cheaply as he could be fed to the same weight at say six months. Whole milk he claimed was worth one cent a pound to feed young pigs up to say 8 to 10 weeks of age.

Mr. John Clarkson, of Woodstock, spoke on "Corn Culture." Mr. Clarkson thinks Ontario farmers are to become consumers of the surplus grain of the great Northwest, and not sellers of grain. Spring plowing for corn was recommended as being much superior to fall plowing.

Mr. C. W. Bowman, of the Ingersoll Packing Co., spoke on "The Bacon Hog." He produced a "Wiltshire side" for inspection, telling the audience that the bulk of our bacon export go forward in this shape. "Our cousins across the water tell us that if we hope to obtain anything like the highest price that they are willing to pay for bacon, this side must be moderately long; it must have a well-filled ham; the side, from which the higher-priced cuts are made, must be deep; the shoulder must be light; and there must not be a thickness of over 1½ to 1¾ inches of fat along the back, and this fat must be

evenly distributed along the entire length of the side." This fat must be firm and hard, not soft and oily, and the side must not be damaged by bruises.

Breed.—The Improved Yorkshire and Tamworth and their first crosses on such breeds as the Improved Berkshire and Chester White produce the ideal bacon hog. Mr. Bowman objects to the second cross, because "We are by no means sure of eliminating the objectionable qualities found in the shorter breeds." That good bacon hogs may be produced from some other breeds was conceded, provided that a system of intelligent feeding be followed, but this is not a safe basis to act upon. There is a difference of 25 cents to 75 cents per 100 pounds in the value of hogs for the purpose here outlined. The reason packers do not make this discrimination in values when buying is because in so doing much dissatisfaction would arise among farmers and the packer would lose his quota of business. Continuing, Mr. Bowman said: "Not over 20 or 25 per cent. of the hogs marketed produce No. 1 Wiltshire bacon." From January shipments, it was shown that out of 1,170 boxes of bacon only 370 were of the desirable quality, and not all of these were really of first rank; 420 were classed as "stouts," 190 as "fats," and 190 as "seconds." The extremely fastidious nature of the English market, to which our best packers cater, make it very necessary that our farmers take every necessary pains to produce the kind of hog that will make the article wanted.

Feeding and Handling.—There are two things to be guarded against. First, the use of foods that have a tendency to produce soft pork; and, secondly, foods that are too fattening. (The question of soft pork has been so much discussed of late in our Ottawa and Guelph bulletins, and in the agricultural press and on the platform, that it is not necessary to further discuss the question here.) Mr. Bowman emphasized the need of exercise in this connection, and, we think, with considerable foundation. Roots in moderation were commended. The damage to the bacon industry of the country by "bruising" was strongly brought out. Out of a lot of 704 hogs killed in one day, 390 bruised sides were found. Out of another lot of 1,035 hogs, 624 bruised sides were found. This kicking and pounding of hogs is a shameful waste, not to speak of its other meaning. The loss due to these bruised sides is and must be borne by the farmer.

Q.—Do you not discriminate in price against certain sections of the country?

A.—Yes, we do. We are willing to and do pay higher prices for hogs in some sections than others, and we try to get our full supply of hogs from sections where there is the smallest percentage of fat and soft hogs.

Q.—Can you tell when hogs are alive whether they are too fat or not?

A.—Generally, yes; although at times they cut up much fatter than their appearance would indicate.

One-Day Conventions.

A series of one-day conventions, held under the auspices of the Dairymen's Association of Western Ontario, was completed recently. Meetings were held at Waterford, Vittoria, Aylmer, Wallaceburg, Arkona, St. Mary's, Ripley, Pinkerton, Harriston, and Molesworth. Nearly 3,000 dairymen attended the meetings, and the number at each varied from about 400 at Aylmer to 35 in the afternoon at Molesworth. The speakers consisted of Mr. Andrew Elliott, of Galt, who is a member of the Farmers' Institute staff, and directors of the Association, there being about three speakers at each meeting. The subjects discussed were: "The dairy cow: selecting breed, feed, etc."; "The bacon hog"; "Care of milk on the farm"; "Winter dairying"; "Present conditions and requirements in the dairy business"; "Observations of an instructor"; "Cream-gathered butter"; "Plans for instruction." The meetings may be considered upon the whole fairly successful, and some of them highly encouraging to the Association, and, with a better system of advertising at some of the points touched, these meetings will no doubt become very popular and educative.

Sir Wm. C. Macdonald's Gift.

President Mills, of the O. A. C., has received word from Sir William C. Macdonald, of Montreal, that he had placed \$125,000 in the Bank of Montreal to the credit of the Macdonald Rural School Fund, for the erection and furnishing of buildings at the college. Several plans have already been drawn for the two new buildings which it is proposed to erect, and the final draft will shortly be submitted to Sir William for his approval, after which tenders will be called for and the work proceeded with at once. The question of the site is not finally settled.

A Seed Fair.

The South Wellington County Farmers' Institute held a successful seed fair at Guelph, on Saturday, March 22nd. Prizes were given for all classes of spring grain and seed potatoes. Mr. C. A. Zavitz, of the O. A. C., judged the exhibits, and gave an address. Large quantities of seed changed hands among the farmers.

Tariff Unchanged.

Finance Minister Fielding, in his budget speech at Ottawa, a few days ago, announced no changes in the tariff, though many applications for increases had been made.

The Recent Session of the Ontario Legislature.

LEGISLATION.

The recent session of the Ontario Legislature was not productive of very much legislation that especially affected the farmers. There were, of course, many bills introduced and some Acts assented to that affected the rural community as well as the residents of our towns and cities. Reference might be made to one in particular, that providing for the construction of a Government railway into the great northland. We have known for years that the great unoccupied area to the north of the C. P. R. is a vast forest of pine and spruce, but the railway was not considered as a prime necessity until it was discovered, a little over a year ago, that an enormous belt of rich clay land is to be found there. The discovery of the agricultural wealth may be set down as the main reason for sending a pioneer railway into the uninhabited northland. We shall here briefly refer to three bills that have now become law.

Our agricultural societies and our live-stock associations are organized under what is known as The Agriculture and Arts Act. Of late years there have been two poultry associations. The old association, at one time intended for the whole Province, was known as the Ontario Poultry Association. Of recent years an association has existed, with headquarters at Ottawa, known as the Eastern Ontario Poultry and Pet Stock Association. Under the amending Act of 1902, these two are to be known as the Western Ontario Poultry Association and the Eastern Ontario Poultry Association. The Province is about equally divided between the two, Simcoe, York and Ontario being included in both. To each a grant of \$1,000 is given, and the removal of the section requiring an annual moving of their fair allows the one to locate permanently at Guelph and the other at Ottawa. These two associations now cooperate with the live-stock associations, and Mr. A. P. Westervelt, of Toronto, the secretary of the live-stock associations, has become their secretary as well. In union is strength. The same Act also provides for the formation of Women's Institutes, under conditions similar to those of Farmers' Institutes. These are growing rapidly under the direction of Mr. G. C. Creelman.

One other amendment should be noticed. The annual meeting of an agricultural society must hereafter be held within the municipality for which it is organized, and at such place as the members shall decide, or, in the event of the members failing to decide before December 1st, at such place as the directors authorize.

Barberry has of late years come in for a great deal of investigation in certain parts of this Province, notably in Simcoe County. We need not repeat the arguments advanced against this ornamental shrub, so much used for hedges by town and city residents, and of late so much abused by farmers, and abused it would seem with good reason. Our readers will find the question of the effect of barberry in spreading rust on grain fully taken up in Prof. Lochhead's part of the Report of the Agricultural College for 1902 (pp. 20 to 25). In 1901 an Act was passed prohibiting its planting on farm lands or on lots within 100 yards of farm lands, and providing for its removal from farm lands or adjoining lots upon order of the municipal council, compensation to be made by the council. The amending Act of 1902 provides that common barberry shall not be planted anywhere on any lands within the Province. In case such plants are now growing upon any lands, the procedure for removal of same is as follows: Three farmers living on lands adjoining such municipality shall petition the Minister of Agriculture, who will appoint one or more qualified persons to report upon the case, and upon their finding that the shrubs are a nuisance or are conducive to the spread of the rust, the removal of the barberry may thereupon be ordered and compensation may be allowed, the same to be paid by the Province. As there are many varieties of barberry used on city lots for lawn ornamentation, it was decided to restrict the Act to the species known botanically as *Berberis vulgaris* L.

The San Jose scale seems ever with us. It is making its true nature known to our fruit-growers, and at last indifference and scepticism seem to be giving away to alarm. The Minister has been urged to make more rigorous laws. The duties of owners of infested trees and shrubs have been made more definite; either they must treat according to instructions or they must burn. The fruit-growers of some townships desire more thorough inspection; therefore, provision has been made for the appointment of local inspectors, who shall be under the Provincial Inspector and shall carry out the Department regulations. The force of this is that such inspectors shall not have what may be called a roving commission, but shall restrict their work to the municipality for which they are appointed. Their expenses are to be paid one half by the municipality and one half by the Department. These local inspectors may also act as inspectors under the Yellow and Black Knot Act, and under the Noxious Insects Act. The effect will be that where the scale is most to be feared the inspection may be greatly increased at the desire of the local fruit-growers. This seems a fair proposition.

APPROPRIATIONS.

Below we give the list of money grants made for carrying on the various agricultural undertakings of the Department. A comparison of this list with that of ten years ago will show how rapidly the work is

extending. Some of the grants show an increase over 1901, and the following appear this year for the first time: Expert judges for fall fairs; Eastern Fair at Ottawa (conditional upon the city providing suitable buildings); Provincial live-stock sales; fruit institutes; special dairy instruction (controlled by the Department); short courses in judging and poultry-raising; grant to the Sugar Beet Association, and the buildings projected at the Agricultural College.

Agricultural societies.....	\$ 76,650
Expert judges for fall fairs.....	2,000
Winter Fair (Guelph), improvements and equipments.....	5,500
Eastern Fair (Ottawa), conditional.....	3,000
Fruit Growers' Association.....	1,800
Fruit Experiment Stations.....	2,800
Entomological Society.....	1,000
San Jose scale.....	4,000
Fruit Institutes.....	300
Farmers' Institutes.....	11,650
Dairy Associations (East and West).....	8,000
Special dairy instruction.....	4,000
Eastern Dairy School.....	4,850
Western Dairy School.....	2,850
Cold storage, plans, experiments, etc.....	4,000
Registrar of live stock.....	1,500
Horse Breeders' Association.....	2,000
Sheep Breeders' Association.....	2,000
Swine Breeders' Association.....	2,000
Cattle Breeders' Association.....	2,000
Poultry Associations.....	2,000
Beekeepers' Association, and inspection.....	1,100
Experimental Union.....	1,400
Sugar beet experiments.....	1,000
Sugar Beet Association.....	200
Provincial live-stock sales.....	500
Short courses in stock-judging and poultry.....	200
Pioneer Farm.....	1,000
Bureau of Industries.....	5,500
Reports, bulletins, and special investigations Ontario Agricultural College and Experimental Farm.....	16,000
O. A. C. maintenance and repairs.....	59,726
O. A. C. capital account:	8,200
Laboratory and museum.....	\$ 9,000
Electric-light plant, etc.....	13,400
Land for Macdonald building.....	7,500
Pavilion for stock-judging.....	2,500
Apparatus.....	1,400
Poultry buildings.....	500
Miscellaneous.....	1,500
	35,800
Department of Agriculture, Toronto (Civil Government).....	19,560
Total.....	\$294,086

Oxford Co., Ont.

Last week we had some very mild weather, and the sap was running nicely from the maple trees that were tapped, and some farmers were busy boiling down until nearly midnight. But Jack Frost came along and foreclosed the whole business even more effectively than if the sheriff had stepped on the scene. Some have tried boiling down a little sap on the cooking stove in the kitchen, but that system don't pay. It is like the man who tried to shear a pig. He came to the conclusion that there was a great amount of squealing for all the wool he got. It takes the most approved pans or evaporators to make the business pay.

If this hard weather continues it will likely prove trying on the fall wheat; especially if it thaws and freezes much. After the snow went off our wheat looked very well, although I was afraid in the fall that it would be thin, but it may be all right yet. Before this frost came, our ground had got nearly dry enough to work. We have still some cornstalks left and are now cutting a little clover hay to mix with the cut cornstalks and then pulp a quantity of roots, and mix up together enough to last at least two days, putting on several pails of water and two or three handfuls of salt. It gets to be nearly as good as ensilage, and the cattle eat it with relish. This last frost ought to pulverize the soil that was plowed last fall and make it work better.

Beef cattle are bringing a good price. I heard of one lot being sold at 5 1/2 cents and of another choice export lot sold at 6 cents, the poorest class of butchers' cattle bringing from 3 1/2 cents up. Live hogs are selling at 5 1/2 cents this week and the tendency is said to be upward; but then that is only imaginary, for no one can tell much about the future. Butter in the local market is about 20 cents, and now that the hustling hen is getting to work (henergetically and increasing her product, the price of eggs is declining, and only 11 cents are now obtainable. Sows generally are throwing pretty fair litters of pigs, and the early lambs are commencing to make their appearance. Our cheesemaker is contemplating making an addition to his cheese factory, and will likely make provision for his butter plant being permanently set up, so that he can separate the Saturday night's milk and churn the cream on Monday mornings, thus obviating the necessity of working on Sabbaths, and also supply the patrons with butter for their own use, and then the Sunday-morning's milk can, by being carefully cooled and aired, be sent on Monday morning all right. I asked a farmer if he had got help yet. "No," he replied. "I was thinking of offering to give a man the crop if he would hire me to help him to take it off and give me as good wages as men are generally asking." D. L.

Toronto Markets.

For the past two weeks butchers' trade were below the requirements of ordinary trade. Farmers were holding back their choice cattle from various reasons. The roads breaking up prevented drovers from landing cattle at the market, and prices of all choice stock ran up. The highest price paid was \$5.70 per cwt. Our record of prices current for the past two years show it to be an advance of 50c. per cwt. During the early part of 1880, we think, \$7.50 per cwt. was top price paid since this market was established. The run of cattle for the past week was as follows:

Date.	Cars.	Cattle.	Sheep.	Hogs.	Calves.
March 18.	110	2,173	301	375	33
March 20.	56	1,043	381	921	24
March 21.	66	841	485	1,333	88

Export Cattle.—Choice export cattle sold high. Only a few loads were purchased for export, as the butchers had to take many export class for local trade. Best choice of export, \$5.50 to \$5.65 per cwt. Medium to fair sold at \$5 to \$5.25 per cwt. Eighty carloads of export cattle left for England via Portland per G. T. R. Messrs. Whaley & McDonald sold 20 export cattle, average 1,245 lbs., at \$5.70 per cwt. Mr. A. McIntosh bought two loads exporters, 1,300 lbs. each, at \$5.62 1/2 per cwt.

Butchers' Cattle.—Those averaging 1,100 lbs. to 1,150 lbs. fetched the top price for many a year—\$5.50; average, \$4.80 to \$5.25. Choice heifers and steers, 900 lbs. to 1,000 lbs., \$4.50 to \$4.80; medium and poor, \$3.50 to \$4; inferior butchers' cows, \$3 to \$3.30.

Feeders.—Well-bred steers, weighing from 900 lbs. to 1,200 lbs., are wanted; those weighing 1,000 lbs. sold at \$4 to \$4.60.

Stockers.—Are in good demand, but very few choice, well-bred steers offered. Those weighing 700 to 800 lbs. met ready sale, at from \$3.40 to \$3.90 per cwt. Mixed colors, all poor classes, sold down to about \$2.50 per cwt.

Bulls.—Export bulls in demand, but few on offer. Choice exports sold at \$4.25 to \$4.50, and one weighing 1,700 lbs. at \$4.70.

Calves.—About 80 on offer, from \$2.50 to \$10 per head. There is a disposition amongst buyers to purchase by scale weight, and they are quoted at from \$4 to \$5.50 per cwt. Four carloads of calves were shipped through the market from Peterboro to South Dakota. William Henry, of Scarborough, went in charge. One veal calf, bred by H. Strook, of Waterloo County, 9 weeks old, weighing 200 lbs., sold at \$7 per cwt.

Milk Cows.—Only choice milkers find sale, \$55 being paid for a Jersey. Average price for good milkers is \$40; for inferior scrub cows, \$25 to \$30 per head.

Sheep.—Export sheep firm, at \$3.50 to \$4 for ewes, and bucks sold at \$2.50 to \$3.25. Mr. W. Dunn bought 25 sheep at \$3.75, 100 lambs at \$5.50 per cwt.

Lambs.—Choice heavy spring lambs in good demand, worth from \$4 to \$7 per head.

Hogs.—For choice singers, 160 to 200 lbs., the price was higher, at \$6.12 1/2 per cwt. This advance was quite unexpected owing to light deliveries of the past two weeks; only about 500 on offer to-day. Many of the hogs offered last week were culled as fats at \$5.75, and a great many were light; these are culled at \$5.75 per cwt.; uncullad car lots worth \$5.87 1/2.

	Extreme comparative prices to-day.	Two weeks ago.	Same date last year.
Export cattle.....	\$ 5.70	\$ 5.60	\$ 4.90
Butchers' cattle.....	5.50	4.60	4.35
Export bulls.....	4.50	3.90	4.25
Feeders.....	4.60	4.75	3.50
Stockers.....	3.90	3.75	3.25
Sheep (per cwt.).....	3.75	3.75	3.50
Lambs (per cwt.).....	4.25	4.50	4.70
Hogs.....	6.12 1/2	6.00	6.50
Milch cows.....	55.00	52.00	45.00

PRODUCE MARKET.

Receipts of farm produce were liberal. Wheat.—Seven hundred bushels sold at 75c. to 79c. per bushel; 100 bushels of red sold at from 75c. to 78c.

Barley.—Market quiet, and holders inclined to keep off. Three hundred bushels on offer at 55c.

Oats.—Steady, at 42 1/2c.

Bran.—City mills quote \$15 per ton, car lots. Hay.—Thirty loads of timothy sold at \$12 to \$13.50 per ton. Ten loads of clover hay sold at from \$8 to \$10.

Straw.—Four loads on offer at from \$8 to \$9 per ton.

Seeds.—Alsike No. 1, \$8.50 to \$10.50 per bushel ("scarce and wanted"); red clover, \$5.25 to \$5.75; timothy sold at \$7 to \$8.50 per 100 lbs. These are for special selected seeds for spring sowing.

Butter.—A sharp decline in prices on all dairy butter; pound rolls from 18c. to 23c.

Eggs.—Easter is the time eggs become cheap; new-laid eggs from 14c. to 17c. per dozen.

Dressed Beef.—Beef fore quarters from \$4.50 to \$5.50 per cwt.; hind quarters, \$8 to \$9; mutton carcass per lb., 8c.; veal carcass per lb., 9 1/2c. lamb per lb., 8 1/2c. to 10 1/2c.

Dressed Hogs.—A large number of dressed hogs on sale, at from \$7.75 to \$8.25 per cwt.

British Cattle Markets.

London, March 27.—Here and at Liverpool cattle are firmer and sell at from 13c. to 13 1/2c. per lb. (dressed weight); refrigerator beef is higher, at from 10 1/2c. to 11 1/2c. per lb.

How Export Fat Cattle Are Selling.

The outlook for export beef cattle is good, and steadily inclining upward at this writing. Enquiries at various points elicit the following information:

Central Experimental Farm (Ottawa).—Lot of cattle fed in an experiment sold for \$5.75.

Everything ready seems to have been shipped out. Current offers by buyers at this date are 5 1/2c., and I know of nothing for which a dealer has offered more than 5 1/2c. at feeder's nearest station.

Middlesex (East). Robt. McEwen.

Not many in this locality, and what there are were largely sold in advance at 5c. per lb. to go out in March and April. Buyers are reported willing to give 5 1/2c. for first-class cattle. W. W. Shepherd. Middlesex Co. (West).

Not only exporters, but butchers' cattle are scarce; much more so than usual. The prices paid: \$5.50 to \$5.75 for exporters. Jas. Tolton. Bruce Co., Ont.

Nearly all fat cattle are sold and some shipped. Prices, 5 1/2c. and 5 1/4c., live weight—a good price for our quality of cattle. Prices have been losing money to the shippers. I have heard of some cattle fetching \$5.60 and \$5.75 for middle or latter part of May delivery. For such there must be firm 14c. markets in Britain, and low rates, or they will lose money.

Middlesex Co. (West). C. M. Simmons.

A great many cattle which in general years would have been held till spring are now gone, and farmers are holding for high prices. Exporters have sold all the way from \$5.25 to \$5.80 per 100 lbs. I do not know if any sold as high as 6 cents; expected that prices for good cattle will rule high for June delivery. Huron Co. Thos. McMillan.

Export cattle are all sold around here, from \$5.40 to \$5.75; but most cattle were sold early in the winter, and in some cases more money could have been realized later. Israel Groff. Wellington Co.

The outlook for export beef cattle in this locality is very promising; \$5.50 seems to be the average price at present, although in a few cases \$6 per cwt. has been paid for later shipments. Have been unable to find out any who have either bought or sold for a higher price than \$6. M. D. Geddes. Wellington Co.

FEW CATTLE BEING FED IN MANITOBA.

The editors of our Manitoba and Northwest edition write us that very few cattle are being stall-fed in that country this season—not more than enough to supply the local market. Last spring, dressed meat had to be imported to supply the Winnipeg market. Owing to the favorable season, they look for range beef a little earlier this year. Manitoba farmers, as a rule, do not find stall-feeding profitable.

SIX CENTS AND OVER.

Some North Middlesex lots are reported to have been sold at 6 cents per lb., and one lot at Eramosa, Wellington Co., lately sold for \$6.35 per cwt., to be delivered the latter part of May.

Cattle Dealers Complain.

At the recent annual meeting of the Dominion Cattle Dealers' Association, in Toronto, President John Dunn reported that the cattle yards at West St. John, N. B., had been greatly improved by the Government. Many complaints were made of poor transport facilities, bruising of cattle in shipping, needless delays at sidings causing loss in weight and death, and the president and executive were empowered to seek for redress from the railways. Through the delay of a steamer at Quebec for six days loading lumber, Mr. E. Snell, who had cattle on board, lost \$700, and as yet had obtained no satisfaction. The secretary was directed to obtain such information regarding the law, etc., as would enable shippers to get justice from the companies. There is evidently great need of an efficient Railway Commission.

Chicago Markets.

Chicago, March 28.—Good to prime steers, \$6.50 to \$7.05; poor to medium, \$4.25 to \$6.40; stockers and feeders, \$2.50 to \$5.25; bulls, \$2.50 to \$5.10; calves, \$2.50 to \$6.

Hogs—10c. higher; mixed and butchers', \$6.50 to \$6.85; good to choice, heavy, \$6.70 to \$6.92 1/2; rough, heavy, \$6.40 to \$6.65; light, \$6.45 to \$6.60; bulk of sales, \$6.50 to \$6.75.

Sheep and Lambs—Lambs lower; good to choice wethers, \$5 to \$5.40; fair to choice, mixed, \$4.25 to \$4.90, native lambs, \$4 to \$6.55.

Montreal Markets.

Montreal, March 27.—There were about 250 head of butchers' cattle, 200 calves, 30 sheep and 15 spring lambs offered. No Easter beeves sold to-day, and the highest price paid was 5c. per lb. Pretty good cattle, 4c. to 4 1/2c., and common 2 1/2c. to 3 1/2c. per lb. The calves were a poor lot, and sold at from \$1.50 to \$6 each. About 1,000 calves were brought here yesterday, and some of them were sold as low as \$1 each. Old sheep sold at from 3 1/2c. to 4c., and yearlings at from 4 1/2c. to 5c. per lb. Spring lambs sold to-day at from \$2.50 to \$6 each. Among the sales of extra cattle in the early part of the week were ten very choice beeves, bought by Mr. George Nicholson at 6 1/2c. per lb., and three spring lambs at \$7 each. Mr. J. P. Giguere bought four extra cattle at 6 1/2c. per lb., and five spring lambs at \$6 each. Fat hogs sold at from 6c. to 6 1/2c. per lb., weighed off the cars.



"We have cheerful words for the stranger,
And smiles for the some-time guest;
But we keep for our own the bitter tone,
Tho' we love our own the best."

Some More About Tunbridge Wells.

Tunbridge Wells still. Tired with my morning's packing, undertaken in preparation for a little longer flight than usual, I took up a torn sheet of a magazine, in which was a story, entitled, "The Wooing of the Grand Duke," and, although seeing that it was but a fragment, and that my beginning it would lead me, so to speak, to nowhere, yet I read what there was of it with some interest, because the main action of the story began at least in Tunbridge Wells. A designing mother, with Clara, an uninteresting daughter; a rich, and, of course, beautiful niece, and a most unmistakably caddish son, arrive in a disguised frame of mind at the Grand Hotel, the doctor having ordered the drinking of the waters for Clara's health. Willoughby Baxter, the son, takes his seat leisurely at the belated breakfast, and says, with an air of affected indifference, but of barely-concealed self-importance: "I've been with the Grand Duke."

"The Grand Duke!" exclaim Mrs. Baxter and Clara in a breath. "Yes, the Grand Duke Michael of Lexitania; the fellow who's heir to some trumpery little throne somewhere on the Continent, but whose health's very delicate. The last thing that was in the papers was that his father had sent him here to Tunbridge Wells with the idea that the waters would do him good. It's all rot, of course. If a fellow's badly put together in the beginning, doctors and waters won't patch him up, and it's no use trying," etc.

The youth, swelling with self-conceit, explains how he had seen H. R. H. "spilt" off his bicycle, had picked him up and thus had obtained a much-coveted introduction to him. "He has asked me to dine with him this evening at the Regent's."

Mrs. Baxter's matronly countenance positively shone. Here was luck and no mistake. "I really feel I can forgive your father now for persuading me to come down to this dead-and-alive place, where everything seems to belong to the middle ages, and everybody is as stiff as buckram. And all because he took it into his head that dear Clara would be benefited by drinking the waters! Ugh!" The mother made a shuddering grimace. "She's only had one taste of the wretched water, really. It was so abominably nasty that she couldn't take any more, and isn't likely to touch another drop; are you, Clara? I believe it's all nonsense about the stuff doing one any good; that's only a tale made up by the doctors to

bring people to the town. But how did it happen that the Grand Duke's attendants weren't with him this morning? I suppose they must have fallen behind or lost the way, or something. They're all foreigners, poor fellows, and can't be blamed if they lost themselves—especially in a place like this, all ups and downs and ins and outs. Perhaps they don't know enough English, either, to ask for directions or read the signposts; though you'd think that gentlemen forming the suite of a Grand Duke would be properly educated. What's that you are saying, Clara?" What Clara was saying was a lament that she had not brought her last two new frocks with her; all her mother's fault, of course! The crest-fallen Mrs. Baxter thus defends herself: "You see I never dreamt that we should meet anybody worth meeting in a town like this. It's not like Brighton, or the South of France, where you expect to pick up with strangers, and never know whom you may knock against."

"Perhaps not," replies the disgusted Clara, who knows that the grace and beauty of her Cousin Veronica makes her wholly independent of dress effects, "but the people here are better worth picking up, though they may be hard to get at."

How it all ends, whether His Royal Highness is a real Royal Highness at all, whether plain Clara or her handsome cousin wins the prize, I cannot even guess; but the quotation may not be without some point to it for those who may have read my previous notes on Tunbridge Wells. Like many other places in England, whether you like it, whether you appreciate its beauties or its points of interest, depends much upon your individual taste and intelligence. You may not nowadays meet sprigs of nobility as frequently as of yore, strolling "under the Pantiles" or drinking the waters, which may be healing, but are, as Mrs. Baxter remarked, "so abominably nasty," but the broad, gorse-crowned commons and the bracing, health-giving breezes are there still, and to any who can spare a few days out of their coming summer holiday across the Atlantic, I would venture to say you cannot do better than spend them in this town of many stories, in one of the most beautiful counties of the mother country.

MOLLIE.

"When Did You Last See Your Father?"

Our picture, "When did you last see your father?" reproduced by permission of the Corporation of Liverpool, is a masterpiece by the Royal Academician, Mr. Yeates, one of its older members, and a painter of historical subjects, of considerable reputation. In the footnote we read that it is a supposed incident of the Civil war, when a party of Cromwell's officers have invaded the home of one of the King's followers and are putting to his family, each in turn, the cruel question, "Wher did you last see your father?" in the hope that they may betray his place of concealment. The pale mother, in the background, hides her agony as best she can, while she strains her ears to hear the voice of the little son, who stands upon the footstool bravely facing the grim Puritans, who are trying to entangle him in his speech, and one can almost hear the sobs of the little daughter, whose turn is to come next. Each detail is carefully worked out, from the open chest which has

been ransacked, the casket and the awaits examination, the armor on the wall, and the section of the ancestral picture which just shows above the heads of the hard-featured inquisitors. We, too, seem breathlessly to await the reply from the lips of the little lad, which may mean life or death to the fugitive father.

H. A. B.

A Winter "Idle."

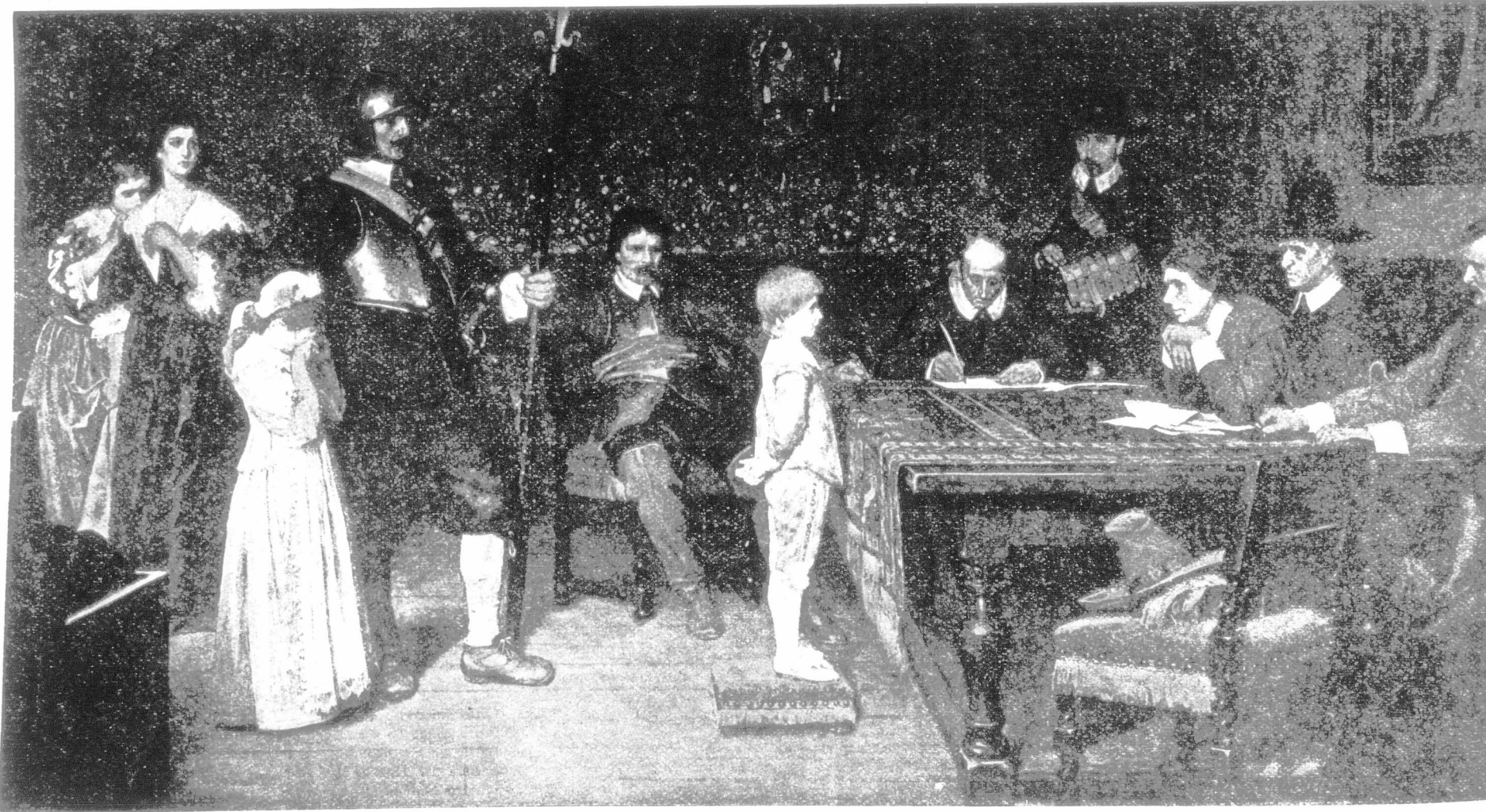
That is what I have been enjoying of late—a winter "idle." It lasted for just one month, and it is astonishing how few days there are in a month sometimes. It began on a day when clean white drifts lay many feet thick over the country roads, and terminated on a March morning, with the March sun coaxing merry little rivulets over the brown earth in the wagon-tracks, and the sap trickling from the bruised maple bough.

Idleness was not uppermost in my mind when I started out, for be it known unto you, O "Advocate" friends, in the secret recesses of my valise there reposed the materials for a patchwork quilt, a ball of yarn for knitting purposes, and an unembroidered centerpiece. How very "old-fogyish" I was in those days! Nevertheless, I visited in several town houses during my "idle"—well-furnished ones, too—where "hit-and-miss" carpets were in evidence, and even patchwork quilts "glittered" cheerfully. My patchwork materials were not of the "glittering" sort; they had been so at one time, when they flaunted over a set of wire hoops and regaled themselves on a polonaise, but that was in their palmy days.

No, idleness was not uppermost in my thoughts; yet, for one whole month my idling propensities were busily employed. I was a veritable Lotos-eater. The patchwork quilt is still a dream of the future, the ball of yarn is as portentous as ever, the linen centerpiece looks pale from neglect. Perhaps it was a sinful waste of time, but for one month I didn't read one play of Bacon's (?), nor a Talmage sermon, nor even the "History of the Sphinx." There was just one bit of thorough reading that I undertook, and that, of course, was the "Advocate."

This spot, wherein I created a temporary little Lotos-land all my own, is suggestive of anything but the Lotos. On the contrary, it is full of life and activity through and through. It is a busy, energetic, Canadian town, and is surrounded by many a threefold elevating influence: to wit, many an oil-derrick. Beneath each is an oil well and a pump, with jerking-rods connecting it with other wells, and leading to, or, rather, from, a "rig"; that is, an engine that supplies the motive power to as many as eighty wells. The crude oil is conveyed through underground pipes to receiving-tanks, from whence it is drawn to the refineries and converted into many useful elements, chief of which are benzine, kerosene, paraffine, and coke, the latter being what remains after the entire refining process has been gone through. This coke makes excellent fuel, and one can almost burn the ashes over again.

It is not so very many years since the first



From the painting in the Walker Art Gallery, Liverpool.
By W. F. Yeames, R. A.

"WHEN DID YOU LAST SEE YOUR FATHER?"

THE CHILDREN'S CORNER.

The Dependable Boy.

I have always liked boys — which is not surprising, considering that I was brought up with six brothers — but boys are not all alike, are they? I remember once, at a S.-S. convention, the question was raised, "What to do with the bad boys?" One very energetic S.-S. worker at once sprang to his feet, exclaiming, "I don't believe there are any bad boys!"

That was nice of him, wasn't it, boys? Possibly I may have the same opinion, but if there are no bad boys, at least they are not all as likeable as you, I am very sure of that.

Some boys are reliable, and some can't be depended on for anything. They may be generous, brave, good-natured, and have a hundred other good qualities, but sometimes they forget to do the things they are asked to do, and sometimes they put off doing it until it is too late. Very soon people give up asking them to do anything, if there is anyone else who can do it. Perhaps you may imagine that would be rather a pleasant punishment, but still you don't want your friends to think you are unreliable, do you?

"The boy who is bright and witty,
The boy who longs for fame,
The brilliant boy, his teacher's joy,
And the boy who leads each game—
Right cordially I greet them
And wish them every joy,
But the warmest part of my boy-loving heart
I give the dependable boy.

"If he says he'll come at seven,
Ere the clock strikes he'll appear,
At a fine brisk pace, with a glowing face,
And a greeting good to hear,
If he says he'll mail your letter,
It will be mailed, don't doubt it;
He will not tuck it in some dark pocket
And then forget about it.

"He may be bright and witty,
He may be brilliant too,
He may lead in the race with his manly face,
He may plan great things to do,
He may have all gifts and graces,
But nought can make such joy
And pride in me, as to know that he
Is a staunch, dependable boy."

Once there were two boys picking up potatoes in a field for their father. About three o'clock their father had to leave them and drive to the station to meet his brother. Uncle Timothy was coming to take one of his nephews to Chicago, where he would train him up in his own business. Both boys were eager to go, and it was doubtful which the rich uncle might choose.

"Oh, by the way, boys," called Mr. Ball as he left the field and started off to the station, "there is a certain potato I meant to look for. Bring it home if you find it."

"What do you s'pose father meant by that?" asked Tom.

"Oh, it was just one of his jokes," said Joe. "I'm hot and tired, and I'm going to get good and rested before I begin again."

Tom filled several bags before Joe felt rested enough to help, and even then his work was "steady by jerks," as his brother told him. At last came the sound of a distant whistle.

Joe straightened himself and called, "Six o'clock, Tom! I'm going to quit."

"Why, we can't quit till all the potatoes are picked up!" answered Tom. "Come on, Joe, it won't take long now."

"No, siree, not if I know myself. I'm going to look after number one. Uncle Timothy ain't going to catch me looking as dirty as this. First impressions, you know."

As Tom drove home with his load of potatoes, he saw Joe shaking hands with his uncle, who had just arrived. The lad looked very bright and manly in his best clothes, and it was easy to see that Uncle Timothy was delighted with his nephew.

"How is this, Joe?" asked Mr. Ball. "Why are you here with your clothes changed, and Tom only just coming home?"

"I thought you'd want me here to meet Uncle Timothy," answered Joe.

"Did you do your share of the work?" asked his father.

"I worked till six o'clock," was the rather defiant answer.

Tom had just finished scrubbing himself at the pump in the yard when Mr. Ball and his brother came round the corner of the house, and it was a bright, healthy-looking boy that came forward to meet his uncle.

"Well, young man, why weren't you here to meet me? This is a cool welcome for an uncle who comes once in fifteen years."

"I know it, uncle," said Tom. "I was dreadfully sorry not to come up sooner, but I've only just finished my work."

"And you never leave your work until it's

finished?" asked Uncle Timothy, with a quizzical smile.

"Oh, yes, I might if it was my own work," laughed Tom.

"Yes," said his Uncle, "I see."

A week later, when Uncle Timothy started for his home, Tom was the boy who went with him.

"You see, Joe," he explained, the night before they left, "I want a boy who will look after my interests; one who is not afraid to work overtime occasionally. The surest way to advance number one in this world is to forget all about him."

"Father," asked Joe, some days after, "what did you mean about that special potato you wanted us to look for?"

"Oh," laughed Mr. Ball, "the last one was the one I wanted, and Tom found it."

Which of these boys do you resemble most, do you think?

"Don't let another lift the load
Your back was meant to carry;
Don't think your task were done as well
By Tom or Dick or Harry."

The boy who is always looking out for "soft snaps" never accomplishes much. He generally thinks it is his bad luck when he is left behind in the race, when the truth of the matter is that no one wants to employ a young fellow who can't be depended on.

Our poetical competition has been very well responded to, and I hope to announce the names of the winners next issue. Some of our youthful poets have overlooked the fact that the subject was to be Canadian country life.

COUSIN DOROTHY.

Scallops.

The housekeeper often tires of the monotony of preparing food in the same old way, and longs for a change in the method of presenting her viands. Try the following recipes:

SCALLOPED BEEF.

For this take small pieces of roast beef. Put in a deep dish. Roll cracker crumbs fine and put a thin layer on top. Season with butter, pepper and salt. Then another layer of beef, then crackers, and season as before. It is improved with layers of stewed tomatoes on top of each layer of beef. Pour a little water on top to wet crackers. Bake one hour.

ESCALLOPED MUTTON.

Remove fat and skin from cold roast mutton. Cut the meat into small, thin slices; season with salt and pepper. Butter a dish, put in a layer of meat, then cold boiled macaroni; moisten with tomato sauce, and so continue until all is used. Cover with buttered crumbs and brown in the oven.

ESCALLOPED FISH.

Three pounds fresh fish — whitefish is best, but any can be used. Boil or steam until done. When cold remove all bones, and rub up fine with the fingers. Then make a dressing as follows:

Dressing.—To one pint of milk add one half of a small onion, chopped; one large cupful butter rubbed into two heaping tablespoonfuls of flour. Stir this into the boiling milk; add plenty of salt, pepper, and parsley, and summer savory if desired. Grease an oyster dish, put in a layer of fish, then a layer of dressing, and so on until the dish is full, allowing the dressing for the top layer, over which grate a little cheese, and bake about twenty minutes.

ESCALLOPED POTATOES—NO. 1.

Into three cupfuls of mashed potatoes beat half a cupful of milk, two tablespoonfuls of butter, one raw egg; pepper and salt to taste. Fill a baking dish with this. Spread bread crumbs over the top. Bake twenty minutes in the oven and brown.

ESCALLOPED POTATOES—NO. 2.

Pare and slice, not as thin as for Saratogas. Let stand an hour in cold water. Drain and put in a buttered nappy with bits of butter, pepper and salt, and a small onion if desired. Pour over milk. Put bits of butter on top and bake one hour.—(Ladies' World.)

Appropriate.

A Sunday-school teacher in Carthage, Ill., has a class of little girls, and it is her custom to tell them each Sunday of one little incident that has happened in the week, and request the children to quote a verse of Scripture to illustrate the story. In this way she hopes to impress the usefulness of Biblical knowledge upon the little ones.

One Sunday she told her class of a cruel boy who would catch cats and cut off their tails. "Now, can any little girl tell me of an appropriate verse?" she asked.

There was a pause for a few moments, when one little girl arose and in a solemn voice said: "Whatsoever God has joined together let no man put asunder."

oil well was drilled in that region. Before that time the oil used to ooze through the soil, and when the first well was put down it burst up with a great force sixty feet in the air, and the whole creek-valley that winds through the vicinity became overflowed with the black liquid to a depth of several feet. Since that time the number of wells has been steadily increasing, and now the whole district is like a mighty piece of machinery. The jerking-rods and pumps keep up their continuous rattle and wheeze all night, and it is rather disconcerting for a stranger to waken up and hear this sound in the dead of night, particularly if he is given to late suppers or insomnia. The town itself is a cheery, up-to-date place, and a most interesting spot to visit.

But that fated March morning arrived and my month was up. It had been a very pleasant one, full of walks and drives, and social chat and laughter, but I had just one other delightful little visit to make on my return trip, and my "winter idle" would be over. That was a very short visit, but a most enjoyable one; perhaps I shall tell you about it some time. We farmers have not much time for "summer idyls," but we can at least take a few weeks or days in a slack season to hearty, wholesome enjoyment, to see how others steer their barques on the sea of existence, and our lives will be the broader and the brighter for it.

This late afternoon the south wind is rustling the dead leaves that still cling to the oaks, and curling over the tips of the pine branches, showing up the delicate shades of green beneath; in warm corners the earliest, bright blades of grass are congregating; where the hollows used to be there are clear stretches of water; the woods look ruddy in the evening sunlight, and over there, on their outskirts, I catch a glimpse of something that glitters—O no, not a patchwork quilt, but a bright tin pail—and I know that it rests against a maple tree and that something sweet drops with a faint little echo into the pinky nectar below. Surely I feel the perfume of violets! And can that be a robin? O, ye who see only smoky walls and flashy windows, do ye not long for such a glimpse as this? Ah! spring is coming, and

"It will bring
The primrose by the brook, and all the wide
Green spaces of the forests glorified
With scent and singing."

CHRYSOLITE.

A Word to Mothers.

Just a word of personal experience which may help some anxious mother. Sensible parents are always glad to see a strong will manifest itself in the child; but just how to bend that will in obedience to their own often becomes a puzzling question.

In the first place, I would say, begin with the first manifestation of resistance, as the young will grows stronger with repeated resistance; and in the second place, in this, as "in everything, make your requests known unto God."

My little girl was scarcely two years old. We were away with friends for a day's visit in the country. I was in conversation with one of the ladies, when another (rather unwisely, it may be) appealed to me with, "Mamma, baby had better pick up the photo (which she had thrown on the floor), had she not?" Never thinking of the possibility of her disobeying me, I said in the pleasantest, most confident way, "Oh, certainly. Pick up the photo, dear." In a flash I saw the little back straighten and a resolute look swept over the baby face, which said as plainly as words could have said, "I don't intend to." Again and again, kindly, firmly and wisely as I knew how, I repeated my request, only to see the little figure become more erect, the lips more compressed, and the will more defiant. For one dreadful hour I tried, in turn, entreaty, persuasion, command, and punishment, without the slightest sign of yielding on the part of the child. I was at my wits' end. "Is it possible," I thought, "that I cannot secure obedience from a child of scarcely two years?" I saw that if I could not do it then, I might never hope to. In despair, I cried, "O, God, bend her will, for I can't." Then, turning to her, I said, "R—, hand mamma the photo." Immediately, but slowly, slowly (Oh, what an anxious moment!), the little hand went out towards the photo. How I feared she would relent! But with words of encouragement from me, she at length grasped the photo and thrust it into my hand. Never from that day—thirteen years ago—to this, has she sought to measure her will with mine. The strength of will is there, but there has ever been the proper and loving recognition of parental authority.

If "the King's heart is in the Hand of the Lord, as the rivers of water"; and "He turneth it whithersoever He will," how much more, humanly speaking, is the heart of the little child in His Hand? And will He not "turn it" at the earnest request of a loving mother?

Humorous.

"Children," said Aunt Mary, "you have a new little brother. He came this morning while you were asleep."

"Did he?" exclaimed the eldest. "Then I know who brought him. It was the milkman, because I saw on his cart, 'Families supplied daily.'"

First Friend—"How would you like to lend a friend five shillings?" Second Friend—"I would be only too pleased, but I haven't got a friend in the world."

THE QUIET HOUR.

The Communion of Saints.

"It seemeth such a little way to me
Across to that strange country, the beyond.
And yet not strange—for it has grown to be
The home of those of whom I am so fond;
They make it seem familiar and most dear,
As journeying friends bring distant countries near.

"So close it lies, that when my sight is clear,
I think I see the gleaming strand;
I know I feel that those who've gone from here
Come near enough to touch my hand.
I often think but for our veiled eyes,
We find that heaven right about us lies.

"I cannot make it seem a day to dread
When from this earth I soon shall journey out
To that still dearer country of the dead,
And join the lost ones so long dreamed about.

And so to me there is no sting in death,
And so the grave has lost its victory.
It is but crossing, with abated breath
And white, set face, a little strip of sea,
To find the loved ones waiting on the shore,
More beautiful, more precious than before."

At this joyful Easter season, when all the earth is bursting into new life after its winter sleep, our thoughts naturally turn to those who, like their risen Lord, have passed through the gate of death to the mysterious life beyond. Death seems to put an impassable barrier between us and them, yet surely it is not really so. Have we any right to let the watching world imagine that Death is still the king of terrors to a Christian? We say that Christ has won the victory over death, but do we believe it, really and practically?

Our friends are still alive, although for a little while they are hidden from our sight. We are not really parted from them, for, as the writer of the Epistle to the Hebrews says, we are come "to the general assembly and church of the firstborn, which are written in heaven, and to God the Judge of all, and to the spirits of just men made perfect, and to Jesus the mediator of the new covenant." That last clause makes all clear. If we are really abiding in Christ, dwelling in Him and He in us, members of His body, of His flesh and of His bones—as St. Paul declares—we must be in closest communion with them, for they also are one with Him. "Whether we wake or sleep, we should live together with Him."

The communion of saints is a very real thing, and the realization of it will help us concerning our friends who have passed "into the unseen," so that we may not sorrow even as others which have no hope. They are with Christ, living in closest communion with Him. We too are branches of the True Vine. How can we be separated from them, when Christ our Lord is the living link between us? If we can speak to Him and He to them, is it not almost the same as speaking directly to them? I remember once reading a story of a devout Scotchwoman, whose sons were living some distance from her. Instead of writing to them, she said she sent her messages by the "overhead route." Why don't we all use this overhead route constantly? I don't mean that our letter-writing should be given up; but how often we want to send a message which can't be written down—a message which will go right to the heart of our friend. Why not trust it to God to deliver?

After all, you know, we touch each other spiritually more than bodily, even in this world. A very plain face is often far more dear to us than a very beautiful one. We love the soul of our friend, and the soul is certainly not laid in the grave. People sometimes nurse a very morbid feeling about the place where a tired body has been laid to rest.

"We left her in the silent room,
But when we shut her door again,
'We cannot leave her in the dark!'
We cried aloud with sudden pain.
'The dark?' said One. 'Have you forgot?
Where she is now the cold and dark are not.'

"But when the cold rain swept the leaves,
We heard within our hearts the sound,
And thought of her we loved and lost
Beneath the bleak November ground.
'She is not there,' said One. 'Why mind
The fading garment that she left behind?'"

Longfellow says "There is no death!" and perhaps we may think that daring statement is only poetic license, and imagine that he doesn't mean what he says. Certainly there is no death to one who is joined to Christ, the Life, for He has declared: "Whosoever liveth and believeth in Me shall never die." Don't fancy that I am a Christian Scientist, for I don't deny that the body dies, but I do deny that the body is the man. When the question was once asked, "Have you a soul?" the very sensible answer was given, "I am a soul, I have a body." We recognize this fact when we speak of a body from which the soul has fled as "it." Yesterday he was a man, now it—the part we can see—is a corpse; but the man himself is not dead. As our Lord left the clothes which were wrapped round him, in the tomb, so the body, which clothes the soul here, is left behind in the grave. But still, when one we love has fallen asleep, we cannot help feeling very lonely sometimes; and our Lord showed by His sympathy with the sisters of Lazarus that grief at such times is natural and right, although He knows how to comfort the mourner who really trusts in Him.

Fleming has pointed out that it is comparatively easy to say, "Though He slay me yet will I trust in Him," while the sword still lies sleeping in the scabbard. But "to say this when the glittering sword is bare, and its point is quivering at our heart—here is the patience and faith of saints."

"Sayest thou then to all who will to hearken—
The Saint's star grows not dim,
But still through clouds that climb and deeps that darken

Is visible to him,—
Still when the sunset comes, He taketh order
To whom the right belongs
To send His own away across the border
Silently and with songs?

Nay! God prepares His kings for coronation
Not as might you or I,
And being wondrous, works His preparation
For kingship wondrously.

Not always is the triumph of the sainting
That which our hearts expect.
Tearfully, roughly, doubtfully, and fainting,
How many souls elect

Pass out from hence within the lifted curtain,—
Roughly into the smooth,
Doubtfully into the forever certain,
The circumfulgent truth!

Tearfully, tearfully, becoming fearless,
When trouble's all but o'er,
Fainting when well they might at last be fearless,
Seeing they touch the shore.

Questioning hard by the school unmemulous
Where half our questions cease,
Scarcely a bow-shot off their beds, and tremulous
Upon the verge of peace.

Head drooping just before the crown is fitted,
Eyes dim at break of day,
Feet walking feebly through the meadows wetted
With April—into May."

HOPE.

"I Must Not Complain."

Six years before his death, Sir Walter Scott, the great English novelist, through the failure of his publishing house, was thrown into a debt of \$600,000. He could have compromised with his creditors, who would gladly have accepted his personal share of the debt, but his sense of honor would not permit this. "Every pound must be paid!" he declared. Thus, at an age when many would have said, "I must have rest," he plunged anew into work, and, pen in hand, toiled on through the six years, from twelve to sixteen hours a day, giving to the world meanwhile some of his best books. At last the day came when the final pound was paid, and Sir Walter was a free man, with unstained honor. But his health was ruined; he could no longer walk; his hand had become enfeebled so that he could not easily grasp his pen. In his inability to do so, toward his last day, he sank back in his chair in tears, and, recovering himself, said to his daughter, "Put the pen in my hand again!" They did so, but the hand refused to hold it. The life-work of the great hero was done! But he exclaimed, "I must not complain!" And complain he did not. His ambition was realized, and he had given to the world a legacy that should gladden it forever.

What Have We Done?

If we sit down at set of sun,
And count the things that we have done,
And counting find
One self-denying act, one word
That eased the heart of him who heard,
One glance most kind
That fell like sunshine where it went,
Then we may count the day well spent.

But if, through all the livelong day,
We've eased no heart by yea nor nay;
If through it all
We've done no thing that we can trace,
That brought the sunshine to a face,
No act most small

That helped some soul, and nothing cost,
Then count that day as worse than lost.

—Ella Wheeler Wilcox.

A Dead Bird.

"The time of the singing of the birds was come," and even in so unromantic a place as the city park, I was revelling in their music.

But suddenly my enjoyment of their merriment ceased, and all the beauty of the time and place was overshadowed.

Coming swiftly toward me, down the graveled path, was a gorgeously-arrayed maiden, and perched airily among the flowers and laces of her hat was a dead bird.

I dropped upon a bench near by, and when she came up to me, she stopped to make some trifling inquiry, and then seated herself sociably beside me. Very gently and politely I asked her if she did not wish she could give life to the beautiful bird on her hat, that it might fly and sing with its comrades. She stared at me, but before she could reply, I said:

"It seems to me we women ought not to take a life that we cannot restore, just for our own adornment."

Then she found voice with the old plea:

"Oh, but you know, this bird is only a manufactured one."

"Manufactured," I repeated, "but out of what? Not wood or stone? You will scarcely deny that its body and wings are made of feathers, neither will you expect me to believe that any one of the edible fowls furnished them. Manufactured it may be, but out of parts of birds. Only the other day there was an advertisement in a Philadelphia paper for the skins of thirty thousand birds, and I heard, afterwards, that the contract to furnish these skins was taken by some men from the little State of Delaware. So, soothe your conscience no longer with the specious word 'manufactured,' for the natural birds represent less waste of bird life than the made ones, where three or four birds are sacrificed to form unnatural combinations. Milliners, 'wise in their generation,' use this high-sounding term to lull to sleep the conscience of the purchaser."

"But," said the maiden, with the air of bringing forward an unanswerable argument, "didn't you read in the paper the other day that Mrs. —, she who was once 'the first lady in the land,' and who has long been upheld as a model of gentleness and sweetness, wore at a certain dinner a costume of violet and white, and that her bonnet was a violet velvet toque trimmed with gulls' wings? And look here, too," she continued, unrolling a parcel, "here is a magazine a friend lent to me, and what do you think of that?"

She extended toward me a well-known illustrated publication, and pointed to the picture of a popular New York author, whose stories are full of gentle, womanly sentiments, and on her graceful head was a bonnet decked with birds' wings.

"Well," I said feebly, "that doesn't make it kind, does it? Would not the birds give up their lives as reluctantly for a social queen, or a talented author, as for yourself?"

"Oh, I suppose so," she said lightly, "but if women like these will wear birds and wings, of course there is nothing for the rest of us to do but to follow suit; but really," she continued, putting her hands up to her hat, "I don't enjoy this bird half as much as I did a few minutes ago. I can almost feel these wings trying to get loose and fly away, and I don't believe I'll ever buy another bird, even if they tell me it is manufactured out of goose quills."

At this moment a rose-breasted grosbeak alighted in the top of a tall oak near us and began his plaintive evening song.

"Hark," said the girl, "that grosbeak is singing a dirge over this dead bird in my hat. Oh, I cannot bear it."

And, rising, with swift feet she passed from the park.

As I watched her disappear, I wished most ardently that every wearer of bird millinery might hear in every feathered songster's lay a requiem over the lost life, joy and freedom represented by that inartistic but so-called ornament, a dead bird.—(Clara J. Denton.)

A Humane Pater.

One reads so frequently of the paternal boot as applied to the undesirable youthful suitor that it is a pleasure to chronicle the more humane method adopted by a wealthy Glasgow merchant for choking off a "follower" of his daughter. The girl was very young, so was the follower, but, nevertheless, he called formally on the object of his affections. The merchant and his wife entered the room, the latter bearing a glass of milk and a huge slice of bread spread with butter and jam. "Now, dear, run away to bed," said the kindly mother to her daughter. "It's time that all good girls should be in bed." Then the Glasgow merchant addressed the astonished young man: "Now, youngster, you drink that glass of milk, and take that slice of bread and jam to eat on the road home—and hurry, for your mother must be anxious about your being out so late by yourself." The young man did not call again.

Ingle Nook Chats.

My dear Guests,—

"When the warm sun, that brings
Seedtime and harvest, has returned again,
'Tis sweet to visit the still wood, where springs
The first flower of the plain.

"I love the season well,
When forest glades are teeming with bright forms,
Nor dark and many-folded clouds foretell
The coming-on of storms."

Who is this merry-eyed, sprightly maiden playfully appearing, now with sunshine and peals of laughter, now coquettishly veiling her mirth beneath assumed cloud-frowns and rain-tears? Ah! surely we know her well, for none other possesses just such charms—charms the more valued for their very fitfulness and uncertainty. This fair sprite is April, the merriest daughter of the season of new life. Under her magic touch the invigorating sap, released from the frost king's thrall, pulses triumphantly through all the veins of Nature's myriad children, the trees, the grass, the flowers.

"Sweet April! many a thought
Is wedded unto thee as hearts are wed;
Nor shall they fail; till, to its autumn brought,
Life's golden fruit is shed."

We grumble sometimes at the heat of summer; again at the cold of winter; and even the temperate springtime occasionally receives a share of our blame, because, perchance, she slyly gives us a sudden shower-bath when we had expected a full day's sunshine. Despite all our railing, deep down in our hearts we love each and every one of the seasons as they come, and none holds a warmer place in our affections than the bonnie, bonnie spring, when all the flowers awaken to gladden us with their sunny faces, and when the merry songsters whom winter's approach had driven away, return to enliven our days of toil with their sweet orisons. Pert robin red-breast has already made his appearance and saucily challenges our admiration, while the less-hardy swallow, gray-bird, oriole and canary will soon follow in his wake.

What music dwells in the first bird songs of early spring! Or is it but fancy, after their long absence, that makes them seem sweeter than at any other time?

My dear "Chrysolite," I enjoyed your nice letter, as I should also have enjoyed accompanying you on your tour through the "Advocate" building; I had that pleasure a few years ago, and found it very interesting indeed. Do you like to look at machinery? I do. The linotype was a continual source of wonder to me. The accuracy with which each tiny part does its own particular duty, and the serious result of its failure to do so, might furnish us with subject for reflection as to our own faithfulness in small things; for if a small thing, if a small lifeless piece of steel or wood possesses such power, how much more have we, who are endowed with mind and soul? How much more serious, too, will be the effect of our failing to fill the place for which we were intended? The smallest screw in any great piece of mechanism may be of just as much importance as the supposedly greatest part of the same, inasmuch as the perfect working of this mechanism is dependent upon that screw's keeping in proper place some other part of the great whole, which if deranged would render futile the perfect action of every other part. In like manner, it is not so much the place we fill, as the manner in which we fill it, that is of moment in the mechanism of our lives.

"The way at times may dark and dreary seem,
No ray of sunshine on our path may beam,
The dark clouds hover o'er us like a pall,
And gloom and sadness seem to compass all;
But still with honest purpose toil we on,
And if our steps be upright, straight and true,
Far in the east a golden light shall dawn,
And the bright smile of God come bursting through."

OUR COMPETITIONS.

Maud Jose acknowledges receipt of prize won in Contest XVI., and expresses much satisfaction with the same.

Our drawing contest has brought to light artistic ability beyond my highest expectations, and I am much pleased with results so far. The time having been extended to April 15th, I expect to receive many more good specimens of work.

CONTEST XIX.

We offer three prizes for the best original poems on the subject, "A Day in June," all work therefor to reach Pakenham not later than May 25th. Class I. will include those over 18 years old; II., over 14; and Class III., 14 years and under. One prize offered in each class. Poems must not exceed thirty lines, but need not necessarily contain so many. Knowing that there is much dormant literary ability among the frequenters of the Nook, I trust this contest will meet a warm response, and I look for some good poems.

THE HOSTESS,

Ingle Nook Chats, Pakenham, Ont.

On Some History-Telling Stones.

Mollie, in her notes, is always able to tell us something of the past—of histories in stones, in old castles, old monuments, or old ruins, each with its story full of vivid interest, each with its trace of man's handiwork in various stages of decay or of consequent renovation, but a new country is so busy history-making that it seems as if it were in too great a hurry to stop and build its stone records to be the pride and delight of ages to come. But Canada is awakening at last to the claims of coming generations, in token of which historical societies are being formed in many centres, and now the movement has been initiated, we have every reason to hope that it will not be allowed to die out. Our pioneers are fast passing away, and with them much precious information must perish if no steps are taken to preserve it. It is delightful to sit around the ingle nook at the old homestead and hear the story direct from his own lips of how granddad came as a boy to Canada, and how his father, and perhaps his father's father, had hewn a pathway through the wilderness, built first the log shanty, then the four-roomed house, and, at last, the comfortable home, with all its befitting farm surroundings, bespeaking present wealth and prosperity. But granddad's voice may soon be stilled for us, and we shall ever afterwards be saying, "Oh, why did we not ask him about this, or about that; why did we not write down, then and there, what he told us? Memories get confused, and in the course of time are hardly to be trusted for perfect accuracy. The backbone of our Dominion has taken form and shape in the backwoods homes of our land. Our big cities of to-day have all begun from the log shanty, until they have attained into the full growth of which their citizens are so proud. Every nation should have its carefully preserved archives. Every family should have its written family traditions, for it is out of families that nations are hewn. The recorded bravery, honesty, strength of purpose, or even of the simple patient perseverance of a forbear in the long past cannot be without its influence upon the young lad of the present. The gallant struggles which marked epochs in the history of the Dominion must ever be an inspiration to its defenders to-day. We rejoice, then, that on the Plains of Abraham, in Quebec, and on Queenston Heights, in Ontario, there stand two monuments, which will tell to all generations to come that what Canada has done Canada will do to uphold the honor of its flag and country. Let us, then, preserve such monuments as we have, and endeavor in future to mark every event of national or local importance by some tangible token that the Canada of its day recognized its value, and would not allow its story to sink into oblivion. Last autumn, in sending some holiday jottings from Cambridge, near Boston, Mass., I lamented that want of space prevented my giving all my notes in full. Now, what I did want to tell about then, but could not, was somewhat along the lines of my present subject. I had been told that Cambridge was rich in inscriptions, that every here and there would be found a stone marking an event which meant something in its history and development. It was often but a small stone, simply telling the fact itself, or it was an old colonial house or church, with a stone slab let in, with its date and the name of some occupant known to fame. The Harvard buildings were each named, of course, and had a special interest of their own, but it is not of them I speak. In the nature of things, I could not expect to find on this side of the Atlantic, anywhere, the time-worn memorials of nearly a thousand years ago as I had seen them in and around our fine old cathedrals in the dear Old Land, but in Cambridge, U. S., I found some dated from 1630 onwards, such as: "Thomas Dudley, founder of Cambridge, Governor of Massachusetts, lived here in 1680"; "Site of first meeting-house in Cambridge, erected A. D. 1630"; "Apthorp House, built in 1766; General Burgoyne and his staff officers were confined here, prisoners of war, 1777." In Brattle St., opposite Washington school, was "First school in Cambridge. Near this spot stood the spreading chestnut tree and the smithy referred to in Longfellow's poem, 'The Village Blacksmith.'" "Meeting house; here Washington worshipped in 1775; Constitutional convention of Massachusetts held here in 1799; Lafayette welcomed here in 1824." This stands in Harvard Square. . . . On a little triangular bit of sward, at crossroads within the town limits, still grows an old tree thus inscribed: "Under this tree Washington first took command of the American Army, July 3rd, 1775." Again, "Oldest church building in Cambridge, built in 1760; occupied by continental troops in 1775." Further on, "These guns were used by the continental army in the siege of Boston during the American revolution." This inscription is on the column around the monument. On the corner of Dunster and Winthrop streets we find, "Built in 1762, the house of John Hicks, who was killed by British soldiers, April 19th, 1775; used by General Putnam for army office." Within the College grounds is: "Wadsworth House, built 1726,

occupied by Harvard Presidents from Wadsworth to Everett, and in July, 1775, by Washington." In the law school grounds: "Here assembled, on the night of June 16th, 1775, 1,200 continental troops under command of General Prescott. After prayer, by President Langdon, they marched to Bunker Hill." Also "Site of the headquarters of General Ward and the committee of public safety, 1775"; "Birthplace of Oliver Wendell Holmes"; "On this spot, in 1630, stood an ancient oak, under which were held colonial elections."

Besides the above, there are probably many similar inscriptions, and perhaps it is to these faithful historians who thus, chipped out in stone, left in brief sentences such valuable traces of a troubled but finally-victorious past, is due in part the deep love, pride and veneration with which Boston and its neighborhood is enshrined in the hearts of its people; feelings which, in some degree, are shared even by the aliens who have more lately come to live amongst them. They, too, like to say, "I live in Boston," or, "My home is in Cambridge," and they enjoy, rather than resent, the frequent banter which this pride in their refined surroundings seems to have provoked. A Cambridge friend, who had helped me most kindly in what she called my "search for tombstones" has since sent me the following, which will at least serve to illustrate my last assertion, and perhaps be amusing to our readers as a wind-up to my little story in stones.

It runs thus simply—"I'M from Boston."

"A mile from the City of Boston, on the old State road, has stood for many years a milestone marked in fading and storm-beaten characters: 'I'm from Boston.' One day a lady from Boston, now deceased, returned from a walk in tears. 'Oh, I have had such a touching experience,' she said. 'A little way out from the turmoil and unrest of the town, I came across a lonely grave—weeds had overgrown it, and the mound was sunken even with the surrounding earth. I sat beside it for a long time and laid flowers upon the undistinguishable resting-place of what was once, I am sure, a poet. For the inscription upon the mossy headstone was so unique, so eloquent, so sublimely touching—it merely said, 'I'm from Boston!'"

This episode was afterwards rendered in verse, entitled

AN EPITAPH.

"A lady (who will doubt her home?),
Whose blood was Bay State's bluest,
Once near St. Botolph's town did roam,
Among the suburbs newest.
Beside the way she saw a stone,
Small, neat, of plainest granite,
And on one side, with moss o'ergrown,
A lettering; thus ran it:
'I'm from Boston.' 'Ah!' she cried,
'What more could he desire?
When, after Boston's joys, he died,
And went up one step higher,
A traveller lies here at rest
Who life's rough ocean tossed on:
His many virtues all expressed
Thus simply: 'I'm from Boston.'"

—Anonymous.

H. A. B.

Stayin' Up Late.

Sometimes, when bed-time comes, I tease:
"Please, daddy, let me stay up late;
I ain't a single snip o' tired."
Jack Smith don't go to bed at eight."

An' daddy looks at mammy, den,
An' of she wiggles with her head
He says, "All right, another hour
Before you hafter go to bed."

An' nen I feel jes like a man
(I tell you what it's hard to wait
Ter grow—a feller feels so small
When he has to go to bed at eight).

So me 'n' th' pup play drivin' horse
Until th' pup gets tired o' that,
An' he don't wantter play no more,
An' goes to sleep in daddy's hat.

An' nen I ask dad why it is
That I don't have hair on my face
Like him, An' who he thinks 'd win
Ef me an' Jack Smith run a race.

An' nen dad says, "I was mistook
In lettin' you stay up, I fear."
An' nen it's only half past eight—
An' nen—an' nen—th' mornin's here!

—From Harper's Bazar.

Blind; Oh, So Blind.

Isn't it strange how people
Gaze with enraptured face
On the cunning work of the painter
Limning sweet nature's grace,
And yet with eyes that see not,
Nor souls that beauty find,
Live in the world the painter paints,—
Blind; oh, so blind?

Isn't it strange how people
Thrill in the keenest way
To the stories of life and its living
Told in book or in play,
And yet, with darkened vision,
To naught of their charm inclined,
Live in the world where the stories live,—
Blind; oh, so blind?

—Ripley D. Saunders

A Trotter for a Clydesdale. Exchange wanted.

Hugo 17567, by Elector 125, the greatest trotting sire of the world; dam Helpmate, by Planet (sire of Dan e Winnie, dam of Palo Alto, 2083, once the world's champion trotting stallion); is offered in exchange for a registered Clydesdale stallion that has proved himself a good foal-getter and that has good conformation, size, style and action. Hugo is 15 years old, strong, smooth and handsome, and has sired many good ones, including Hunyadi, 2551. Hugo had a winning race record of 2.27 as a 4-year-old, and afterward one of 2.24 with little training; has trotted quarters in 33 seconds. Correspondence invited, but no one need answer this advertisement unless he has for exchange a horse that will fulfil the above requirements.

W. HOPKINS BROS., Proprietors DURHAM STOCK FARM, FORT FAIRFIELD, MAINE.

FARM FOR SALE IN PILKINGTON

THREE hundred acres in the Township of Pilkington, Lots 3, 4 and 5, Concession 3. This is one of the best farms either for stock or grain in Ontario. There are two sets of buildings, and it is suitable to be farmed as one, two or three farms. For particulars apply to the undersigned on the premises, or by letter to JAMES HUNTER, ALMA P. O., ONT.

Queens You Should Have.

Does blood tell in other stock? Why not in bees? Stock used for breeding the queens offered, not from a sport—but my pick out of an apiary giving, last season, an average yield of 102 lbs. extracted, and 60 lbs. comb honey, per colony, besides increase and winter stores.

Quality of comb honey produced: "Man! it would dazzle you." Wm. McEvoy, Ontario, Government Inspector of Apiaries.

Wintering Qualities: "Up to the present, Jan. 30, these bees have not shown the least unrest; always quiet. They are wintering perfectly." Frank T. Adams.

General Commendation: "Out of the queens you sent me, I have produced the best strain of bees I ever owned. Remember, that is saying a lot, as I have tried every breed imported to this country. The bees winter better, build up and stand the cold, chilly winds in the spring, and are more suitable than any bees I ever owned. For the season they gave me more increase and double the honey stored by pure Italians. Glad you are going into the queen business, and are going to join our ranks again. We are much in need of a few men like you." C. W. Post, ex-president of Ontario Beekeepers' Association, and owner of 365 colonies.

S. T. Pettif, Canada's most successful comb honey producer and beekeeper, says: "The blood in my apiary is largely the progeny of queens sent by you. They are grand bees."

Prices of queens: Tested, \$2.00 each; six for \$10.00; one dozen, \$18.00. Untested; before July 1st, \$1.25 each; six for \$7.00; one dozen, \$12.00. After July 1st, single untested queen, \$1.00; six for \$5.50; one dozen for \$10.00. Prices on larger quantities given upon application.

The above queens are bred from a careful selection of Italians and Carniolans. Pure Italians or Carniolan queens at same prices. Price of full colonies on application. Order early. Address: om

R. F. HOLTERMANN (Mgr. Bee Dept.),

BOW PARK CO., Limited,

Box 88, BRANTFORD, ONT., CANADA.

Robert W. Hobbs,

Kelmscott, Lechlade, England.

One of the largest flocks in Oxford Down Flockbook. Numerous prizes obtained for ram lambs at principal shows. Rams and ewes always on sale.

FOR SALE:

Imported Yorkshire Coach Stallion.

First prize and sweepstakes two yrs. in succession, in 1898 and 1899, at Western Fair, London.

John Longfield, Crampton P. O., Ontario.

EGGS: Single-comb White Leghorns. Pens headed with first-class male birds—"Hartford" and the Royal strains. Royal strain, \$1.00 for 13 eggs; "Hartford" or exhibition strain, \$1.50 for 13 eggs. J. E. HUSSEY, Melbourne, Ont.

PINE HILL POULTRY YARDS

Offer eggs from the very choicest of stock; no second-class pens. W. and Barred Rocks, S. L., Golden and W. Wyandottes, S. G. Dorkings, L. Brahmans, B. Langshans, W. and Brown Leghorns, Buff Cochins, and Golden Sebright bantams, at \$1 per 13 eggs. Pekin duck eggs, \$1 per 11. M. B. turkey eggs, \$2 per 9. Toulouse geese eggs, 40c. each.

D. A. GRAHAM & SON, THEDFORD.

TREES, SHRUBS & EVERGREENS

I am prepared to fill orders for all kinds of Trees, Shrubs and Evergreens at right prices. Address: om

CHAS. BAKER, London Nurseries,

LONDON, ONT.

OFFICIAL INSPECTOR FOR SAN JOSE SCALE.

SHORTHORN BULLS FOR SALE:

A choice lot of Shorthorn bulls from 10 to 16 months old, sired by Imp. British Statesman (63729) = 26833 =; and cows of the Mra family. They must be sold at once. Prices away down to suit customers. FITZGERALD BROS., om

Elmvale Station, G.T.R. Mount St. Louis P.O.

PLEASE MENTION FARMER'S ADVOCATE.

GOSSIP.

AN IMPORTANT SALE OF JERSEY CATTLE.

Announced in our advertising columns is an exceptionally interesting auction sale of high-class Jersey cattle belonging to the estate of the late Mr. Charles Lantz, at "Amherst Villa," Williamsville, N. Y., 3½ miles from the limits of the City of Buffalo, on May 28th. The herd was established in 1890, and no expense has been spared in adding to it from time to time high-class animals of the very choicest breeding and performance, as the milk and butter records of the long list of tested cows in the herd at various times amply attests. The best of the St. Lambert and other noted strains of blood were introduced and an uncommonly good milking record for the whole herd was established, while the best cows were well up among the best of the breed in dairy performance. For the introduction of fresh blood and the more general improvement of the udders in the herd, some three or four years ago Mr. F. S. Peer was commissioned to select on the Island of Jersey a consignment of choice animals to be added to the herd. In this importation were three high-class bulls and eight females deeply bred in the blood of the noted Golden Lad, whose influence has been so remarkably prominent in recent years in improving the udders of his progeny and descendants. Prominent among these bulls was Golden Blyth, a grandson of the great Golden Lad. The young stock sired by Golden Blyth are said to be the finest ever produced at "Amherst Villa," and the heifers show splendid promise of udder development, while some of the imported cows have tested from 14 lbs. to 18 lbs. butter in seven days. Other importations have been made since of bulls and females, and the herd is today a very strong one in every sense. Another of the stock bulls in service is "Great Name," a son of Nameless, the championship cow of the Island of Jersey, and sired by Great Scott, considered the best-producing son of Golden Lad, and Great Name is the only produce of this remarkable cow that has ever been sold.

As the offering in this sale is made up of young animals sired by the Island bulls above mentioned, a rare opportunity will be offered to secure up-to-date Jerseys at the buyer's own price. Send for the catalogue, and mention the "Farmer's Advocate."

From the annual sheep returns collected by the New Zealand Government, a copy of which we have just received, we find that in 1890 the total number of sheep in that colony was 16,116,113. Since that time sheep have steadily increased, in 1901 the total reaching 20,233,099. Nearly every farmer is an extensive sheep-raiser, the flocks ranging in numbers from a few score to as high as 40,000 and 50,000 head.



THE SPRAMOTOR COMBINATION (crude oil and water) outfit at work cleaning up an orchard when the buds are swelling.

MR. GEO. E. FISHER REPORTS THAT THE

SPRAMOTOR

IS THE ONLY RELIABLE MACHINE FOR APPLICATION OF CRUDE OIL AND WATER MIXTURE.

SPRAMOTOR CO.,

109 Erie Street, E. 68-70 King Street, BUFFALO, N. Y. om LONDON, CAN.

"BIBBY'S CREAM EQUIVALENT"



A common-sense preparation for rearing calves. The outcome of extensive experimental tests. No drugs. Excellent results and entire satisfaction.

Specially adapted for feeding with separated or skimmed milk.

Price: 50-lb. bag, \$2.00; 100-lb. bag, \$3.50; freight prepaid to nearest railroad station.

TO BE OBTAINED FROM LOCAL DEALERS OR DIRECT FROM

J. BIBBY & SONS,

10 BAY STREET, TORONTO, ONT.

DR. HESS' STOCK FOOD

Is the result of scientific study. It is formulated by Dr. Hess, a graduate of both veterinary and medical colleges. If the colleges of veterinary science know of nothing better it must be good.

What prominent Indiana stockmen say of it:—

Evansville, Ind., Dec. 7th, 1901.

DR. HESS & CLARK, ASHLAND, OHIO:

GENTLEMEN,—We are feeders of Dr. Hess' Stock Food, and we will never do without it. We made a special test of it. We had a cow that was not doing well, little bit on the sick list. We began to feed Dr. Hess' Stock Food just as the directions stated, and in several days she showed an improvement in her appearance. A few days following we made a test of her milk, weighed it daily and in seven days she showed a gain of four pounds. We are feeding 60 head of cattle, 14 horses, 25 hogs, and our stock never did as well since we are in business. We cheerfully recommend Dr. Hess' Stock Food to the dairymen and stockmen. It will keep the cattle, horses and hogs in a fine condition.

Yours truly,

C. W. & C. KRATZ.

Dr. Hess' Stock Food is a Guaranteed Milk and Flesh Producer.

It is not a stimulant, but a tonic. It builds up the system of the animal generally. Horses show greater ambition when fed Dr. Hess' Stock Food. They do more work and stand it better.

Feed Dr. Hess' Stock Food to your cows; if it doesn't pay, your money will be refunded. 7-lb. sack, 65c; 12-lb. sack, \$1.00.

SOLD BY DEALERS GENERALLY, OR ADDRESS: om

THE GREIG MANUF'G CO'Y, CANAD'AN AGENTS, MONTREAL, QUE.

FREE.—Dr. Hess' scientific veterinary work, giving the symptoms and latest treatment on stock diseases, will be mailed you for the asking. Address: DR. HESS & CLARK, ASHLAND, OHIO.

Lafayette Stock Farm.

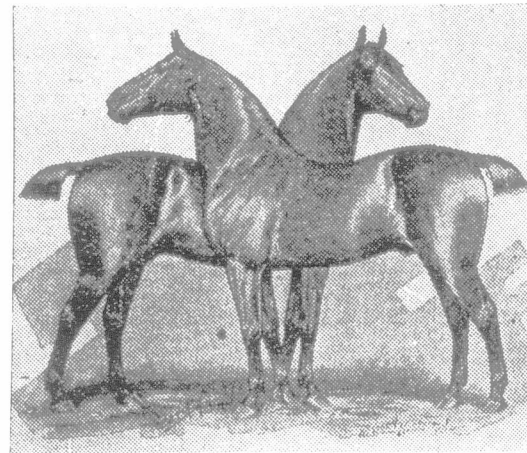
LEADING IMPORTERS OF HIGH-CLASS

HORSES

OF AMERICA.

One importation of German Coachers arrived January 9th, 1902; one of 42 head arrived March 9th, 1902. The best German Coach horse makes the best cross on small trotting-bred mares, producing horses that weigh from 1,100 to 1,400 pounds, and stand 16 to 16½ hands high, with finish and action. We give gilt-edge guarantee and terms to suit buyers.

Oldenburg German Coachers, Black Percherons, Normans and Belgians.



We import and sell more German Coach stallions than all others. We buy every horse ourselves direct from the breeder in Europe. Come to headquarters for high-class, serviceable stallions.

J. CROUCH & SON, LAFAYETTE, IND.

VALUABLE PREMIUMS.

EXACT SIZE OF KNIFE.



An Al Farmer's Knife

DIRECT FROM SHEFFIELD, ENGLAND.

**FINEST HAND-FORGED STEEL BLADES. STRONG AND DURABLE.
BEAUTIFUL NICKEL HANDLE.**

Specially selected and ordered by the Manager of the ADVOCATE when in England last summer.

Cannot be Duplicated.

Every farmer and farmer's son should have one of these knives.

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How to Secure It.

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And we will send you the knife, postpaid.

Another large consignment now on the way from England.

Made by one of the longest-established manufacturers of cutlery in Sheffield, England.

THE BIG FOUR

THE GREAT PREMIUM PICTURE OFFER, FOR OBTAINING NEW SUBSCRIBERS TO THE "FARMER'S ADVOCATE" AT \$1 A YEAR.

"CANADA'S IDEAL" Admitted by judges, breeders and artists to be the most magnificent engraving of high-class modern Shorthorns ever issued in any country. 24 x 36 inches. Twelve animals.

"CANADA'S PRIDE" Nine celebrated draft horses.

Your choice of any two of these for 1 new subscriber, or all four beautiful pictures for only 2 new subscribers.

"CANADA'S GLORY" Eleven celebrated light horses.

"CANADA'S COLUMBIAN VICTORS" Thirteen celebrated Ayrshire cattle.

BEGIN TO CANVASS AT ONCE FOR NEW SUBSCRIBERS. The Christmas number for 1901 will be sent FREE to all who now subscribe for 1902. **Subscription Price, \$1.00 per Annum.**

Our Self-Binder HANDY, DURABLE and ATTRACTIVE. Made to contain the 24 issues of the year. We will forward this Binder, postpaid, to anyone sending us the names of TWO NEW SUBSCRIBERS and \$2.00.

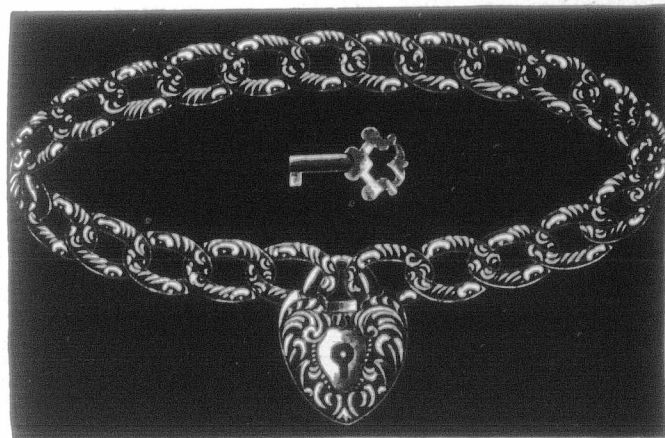
Bagster's NEW COMPREHENSIVE Teacher's Bible,

Containing the Old and New Testaments, according to the authorized version, together with new and revised helps to Bible study—a new Concordance and an indexed Bible Atlas, with SIXTEEN FULL-PAGE ILLUSTRATIONS, PRINTED IN GOLD AND COLOR.

HOW TO OBTAIN IT—

Would retail at from \$3 to \$4. We will send (carefully packed, post prepaid) this Bible to anyone sending us the names of TWO NEW SUBSCRIBERS to the FARMER'S ADVOCATE at \$1.00 each.

Handsome
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For 2 new subscribers. Sterling silver for 3 new subscribers. For each additional new subscriber, two Sterling Silver Friendship Hearts.

Write for a sample copy of the Farmer's Advocate, and begin to work for these premiums. Cash must accompany new names.

THE WM. WELD COMPANY, LIMITED, LONDON, ONTARIO.

GOSSIP.

A HIGH-CLASS HERD OF SHORTHORNS.

One of the very best herds of Scotch-bred Shorthorns in Canada, both in breeding and individual merit, is the Springhurst herd of Mr. H. Smith, of Hay, Ont., whose enlarged advertisement appears in this issue, and whose well-watered farm of 250 acres of superior grain and grass land lies 1 1/2 miles from the beautiful town of Exeter, on the Grand Trunk Railway, 30 miles north of the City of London. Few Canadian breeders have shown equal skill and discrimination in selection and breeding to build up a herd of uniform type and high-class excellence; few have been as successful in producing prizewinners and champions at the leading shows in Canada; few are better judges of a Shorthorn and none more worthy of confidence.

The Springhurst herd, now numbering 75 head, was well founded on the grand imported Cruickshank cow, Village Blossom, the mother of the World's Fair champion, Young Abbotsburn, whose grand constitution carried her through long life, breeding till she was nearly 25 years old, while a daughter now in the herd is fresh and fruitful at 15, and promising to produce for five years yet. From this cow Mr. Smith bred the noted bull, Abbotsford 19446, a champion winner, and the sire of not a few sweepstakes while in service in the herd, including Valiant, the champion bull at Toronto last year, in the strongest show seen in Canada in twenty years. Several of the Village Blossom family are yet in the herd, and from time to time have been added representatives of other Cruickshank tribes, until to-day we find in it excellent members of the Missie, Duchess of Gloster, Butterfly, Queen of Orange (of the same foundation as the Beauty Ingham families, bearing the blood of the best of the Sittytown sires. Besides these are excellent specimens of the Kinellar Rosebuds, Golden Drops, Urys and Claret, Marr Beautys and Minas, Bruce Augustas and Rosalinds; also Kibblean Beautys, Crombie Diamonds, Strathallans and Vain Duchesses. Among the imported cows at present in the herd is the handsome roan four-year-old Marr Missie, Mistletoe 21st, bred by Mr. Duthie, sired by Nonpareil Victor, dam by Scottish Archer and grandam by William of Orange; the Kibblean Beauty cow, Sensation, a thick-fleshed, rich roan daughter of the Duthie-bred Merry Mason, bred by Mr. W. S. Marr, and sired by William of Orange; the Bruce-bred Augusta 111th, a substantial cow of rare quality, sired by Sittytown Archer, a richly-bred Lavender, of Mr. Duthie's breeding, got by Scottish Archer; Mollie 2nd, Mr. Smith's choice of 150 head in quarantine, is a meritorious, rich roan two-year-old, bred by Sir John Gilmour, and got by the \$6,000-bull, Brave Archer, who was also by Scottish Archer. Butterfly 51st, another handsome and heavy-fleshed roan two-year-old, is of the Cruickshank Catterly tribe, bred by Mr. John Marr, Cairnbrogie, and got by Royal Standard, by a son of Star of Morning. With such combination of choice families in the female end of the herd, comment on the character of the young stock is scarcely necessary; suffice it to say they not only maintain the standard, but show substantial improvement.

In a time when so much is said of the scarcity of good bulls, it is gratifying to find a herd so well furnished in this regard as is the Springhurst herd. At the head of the list, and the principal stock bull, is the imported, red two-year-old Royal Prince, of Mr. Manson's favorite Kibblean Beauty tribe, his dam being a sister in blood to the champion female of the Royal Show last year, and he is of the blood royal on the paternal side of his pedigree, being a son of the Duthie-bred Mystic Archer, by Scottish Archer, and out of Missie 136th by William of Orange. Mystic Archer's breeding is almost identical with that of that greatest of latter-day show and breeding bulls, Marengo, the Royal champion, while the sire and grandsire of Royal Prince, Merry Mason and Mount Royal, both bred by Mr. Marr, are richly bred, the former being of the Uppermill Maude tribe, by William of Orange, the latter a Missie by the Cruickshank bull, Criterion. Royal Prince is an uncommonly short-legged bull, with grand cross, a wide chest, big heart-girth, smooth shoulders, a well-packed back and loin, long, level quarters, first-class flesh and hair, a good masculine head, and his legs well set under him. He has all the necessary qualifications to make a high-class sire. Prince Misty, a handsome, smooth, well-proportioned red yearling, is a scion of the Marr Missie tribe, sired by Imp. Prince Bosquet, bred by Mr. Marr, from his favorite Princess Royal family, and got by the grand red Cruickshank bull, Wanderer. The dam of Prince Misty was sired by Deane Willis Nonpareil Victor, by the Sittytown Victoria bull, Count Victor. This breeding is of the highest order, and the bull does it credit, as he gives promise of making a grand rood one. Bonnie Lad, a red bull, a year old in September last, is a show bull of the first water. Smooth, stylish and substantial, long, deep and wide, with handsome masculine head and true lines, he is fit to head any herd, and his breeding is along championship lines, coming of the Cruickshank Queen of Beauty tribe on the maternal side, while his sire is imported Knuckle Duster, a Bruce Augusta, a first-prize winner at London over the Toronto winners, and his paternal

grandsire was by the champion Barmpton Hero, whose dam was by Champion of England, and his great-grandsire by Imp. Royal Barmpton, the sire of Barmpton Hero. A superior white bull, full of character and quality, is Commander, a year old in February last, sired by Imp. Christopher, of the Sittytown Lovely tribe, by Emancipator. Commander's dam is Village Pansy, by Abbotsford, and of the Village Blossom family. He has in him the material to make a fine show bull. Rosario is strong, smooth, roan yearling, by Mina Boy 4th, and of the Bruce Rosalind family. Checkmate, a smooth, compact, roan yearling, by Imp. Knuckle Duster and of the Marr Beauty tribe, is good enough for a herd-header, and there are several other very useful young bulls fit for service, as well as a number of very promising calves.

Mr. H. Bollert, of Maple Grove Farm, Cassel, Ont., writes that sales of Holstein cattle during February have been very satisfactory. Mr. Alex. Shaw, one of the East Nissouri's progressive dairymen, took the grand young bull, Prince Pauline De Kol 3rd; Mr. John B. Powles, of Powles' Corner, got in Prince Pauline De Kol 4th one of the richest-bred ones in this country; Mr. Chas. D. Brown, of Haysville, took the fifth-month-old Prince Pauline De Kol 5th. This I predict will develop into one of the greatest show bulls in Canada. His individuality and breeding are the very best. Mr. W. W. Brown, of Lyn, took the three-year-old Pieterje Beauty De Kol and her yearling daughter, both very promising young animals, of rich breeding and fine quality. Both are in calf to my great sire, Prince Pauline De Kol. Mr. Brown wrote that he could get plenty of cattle near home, but not the quality he wanted. He would have sold many more females if I had them to spare; still have a grand bull left.

Mr. Joseph Lawrence, of Clearwater, Manitoba, returned from England on March 15th, by the Allan Line steamer, Ionian, having put in three months visiting his native place, Fenry, Cornwall. While in England, Mr. Lawrence did not forget his grand herd of Shorthorns at Restonpark Stock Farm, as he purchased four of the best Shorthorn bulls he could find in England. Two of these were purchased from Mr. W. J. Hosken, Hayle, the breeder of Mr. W. D. Flatt's stock bull, Speculator, that won the sweepstakes at the Pan-American. One of these bulls is a beautiful roan, and half-brother to Mr. Flatt's bull; calved January 12th, 1900; dam Carnation 15th, by Treforest 224. The other bull is Lord Loggens, roan, calved March 7th, 1900; dam Wild Duchess 16th, by Monacrat 67505. After these two bulls were chosen out of Mr. Hosken's herd, he exhibited the remainder of his bulls at Birmingham, March 6th, and won a first prize of fifty guineas for his yearling bull, Hayle Speculator, which sold for 200 guineas at the sale, and also many other prizes. The other two bulls purchased were from the herd of T. F. Roskroge, Trenthick, Helston. One is Argosy, dark red, calved March 27th, 1900; dam Actress, by Norman 73140. The other is Oberon, dark red, calved January 8th, 1901; dam Oxlip 2nd, by Norman 73140. These bulls, with other stock, will leave England about April 1st, in charge of Mr. Jock Lawrence, a relative of Mr. Lawrence expects his bulls to be in Winnipeg in time for the Industrial Exhibition, in July, but this may not be possible, as there will be 90 days' quarantine.

NOTICES.

PARTIES ABOUT TO BUILD should enquire into the claims of the Hamilton Mica Roofing Co., as to the advantages of mica roofing, which comes in squares each 40 feet long by 32 inches wide, and is thus easily and quickly laid and at very moderate cost. For repairing leaky roofs and for temporary or permanent roofing it is equally convenient and useful. See the advertisement and write the Company for particulars.

WOOL IS WANTED BY MR. E. T. CARTER, successor to John Hallam, Toronto, as intimated in his advertisement in this issue. Mr. Carter is prepared to handle any quantity of wool at the highest price the trade will warrant.

WE WOULD CALL THE ATTENTION OF OUR READERS to the advertisement of Bug Death Chemical Co., Ltd., appearing in another column of this paper. The Danforth Chemical Co., of Leominster, Mass., are the originators of "Bug Death," and have been making and selling it in the United States for a number of years with great success. The rights for Canada, Newfoundland, and the West Indies have been purchased by the Bug Death Chemical Co., who are now putting up Bug Death at St. Stephen, N. B., in their own factory. Bug Death has been used with success by Canadian farmers for killing potato, squash and cucumber bugs; also all bugs and worms that eat the leaves of plants. The Bug Death Chemical Co. issue a neat little booklet containing information regarding Bug Death, and a number of letters from prominent farmers giving their experience with it. This booklet also contains particulars about the prizes they are offering for the best yield of potatoes, and will be sent free to all who write the Bug Death Chemical Co., St. Stephen, N. B., and mention the "Advocate."

Mr. A. B. Armstrong, breeder of Yorkshire swine and poultry, Codrington, Ont., sends us excellent photos of W. Wyandotte and B. P. Rock cockerels, taken from life in 1902. The B. P. Rock cockerel weighs 11 1/2 pounds, and the W. W. 10 1/2 pounds, and neither one is fat. Mr. Armstrong writes: "We are offering a choice lot of March and April-farrowed Yorkshires, bred from prizewinning imported stock. Our 800-pound sow, Summerhill Queen, is one of the few large sows that can carry weight without coarseness, and besides that she is a splendid breeder and mother. Her sire was Look-Me-Over, the well-known sire of many prizewinners. We have a lot of young pigs and so will be able to make good selections for our customers. In poultry, we were never stronger. We have two pens of each variety mentioned in our advertisement, and can supply eggs that will hatch prizewinners. We have as good stock as any breeder in Canada, and solicit a share of the trade. We are giving our entire attention to our fowls and Yorkshires and are in a position to supply any demand, but only one quality, and that the best."

J. M. GARDHOUSE'S CLYDES, SHIRES, SHORTHORNS, AND LEICESTERS.

A representative of the "Farmer's Advocate" recently had the pleasure of a look over the stock at Rosedale Farm, the property of Mr. J. M. Gardhouse, Highfield, Ont., whose handsome and substantial newly-imported Clydesdale stallion, Strathcona, is illustrated on another page in this issue. Strathcona is a dark bay, with white points, coming three this spring; bred by Mr. Wm. Finlayson, Throsk Mains, Stirling, Scotland; imported by Mr. James Dalgety, London, Ont., and was sired by The Gallant (Vol. 25), dam Kate Throsk by Boy in Blue 5578, by Top Gallant 1850, by Darnley 222. He has been a successful prizewinner in Scotland, and enjoys the honor of never having been beaten. He is a horse of ample size, combined with first-class quality of bone, hair and action; compact and strong in build, with big heart-girth, deep and well-sprung ribs, and the best of feet and legs. He will probably compete for honors at the coming Horse Show, though he will be at a disadvantage after the ordeal of a recent ocean voyage and a long railway run. Another excellent young Clyde stallion is Lemie Gordon 2nd, a thick, compact, well-muscled horse of good quality, rising three, sired by Imp. Lemie Gordon 1602, by McCannon, by Blue Ribbon, by Darnley 222, dam Bellgrove. An exceptionally meritorious colt is the yearling, Prince of Elmgrove, by Imp. King of the Clydes, first-prize winner in the mature-stallion class at the Toronto Spring Show last year, in the hands of Mr. Gardhouse; dam Maggie of Elmgrove. This colt is choke-full of quality from the ground up. These two last-named are sold to go to Manitoba, together with the choice yearling Shire colt, Darnley of Highfield, by the old imported Shire stallion, Darnley 183.

At the head of the Shires stands the grandly-bred and beautifully-moulded stallion, Imp. Newham Duke 343, a massive three-year-old, dark brown in color, with a perfectly-balanced body, well-sprung ribs, powerful loins, heavy-muscled quarters, broad, intelligent head, properly set on a well-arched neck, the whole built on the best possible kind of feet and legs; such is but an imperfect picture of this truly grand horse. Next in service comes that old stalwart, Imp. Darnley 183, a horse that has left more prizewinners and high-priced animals than any Shire horse living in Canada to-day. Next we were shown the imported Shire mare, English Slut, by English King, dam English Lightsome, a heavy, well-balanced mare, that should be a choice producer; she is now in foal to Darnley. Another Shire mare is Cauldower, by Kherkonk, dam Imp. Columbine. A tremendous, big, well-built filly is the three-year-old Victoria, by Queen of Highfield. She is a solid black, and will make a ton animal. A full sister to her is the two-year-old Orpheus Girl, also a big slashing filly. Next comes the Clyde mare, Maggie of Elmgrove, by Lord Lomand, dam Maggie of Rosedale, a big, breezy-looking mare. Minnie Gordon, by Imp. Lemie Gordon, dam Jess, by McNeillage, is an extra nice filly, showing large size combined with quality. She has also lately been sold to go to British Columbia.

The herd of Shorthorns has been established over thirty years and enjoys a continental fame, which has lately been augmented by the great heifer, Ruberta, winning the World's championship, she having been sired by St. Valentine, a bull bred in the Rosedale herd. In the herd are at present representatives of such noted Scotch families as the Strathallans, Emmas, Wimples, Crimson Flowers, Roan Duchesses, Verbenas, etc. The herd is headed by the imported bull, Loyalty (Vol. 17), sired by Prince Charlie 7362, by the Missie bull, Musgrave; dam Jenny Lind, by the great bull, Matador, by Prince of Fashion. The youngsters by this bull show that he bids fair to prove as successful a sire as his illustrious ancestors.

The Rosedale Leicesters are too well-known to need any comment, as for years they have been successful prizewinners at home and abroad. Suffice it to say, that the large flock have come through the winter well, many of them in show condition. The spring lambs are growing nicely and by fall will no doubt be in shape to add fresh laurels to this already famous flock.

HORSEMEN!—THE ONLY GENUINE IS

GOMBAULT'S CAUSTIC BALSAM.

Not genuine without the signature of
The Lawrence Williams Co.
Sole Importers & Proprietors for the
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The Safest, Best BLISTERS ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Hemishes from Horses and Cattle, SUPPRESSES ALL CAUTERIES or FLEING. Impossible to produce scurf or Memish. Every bottle is warranted to give satisfaction. Price \$1.50 per bottle. Sold by Druggists, or sent by Express, charges paid, with full directions for its use. Send for free descriptive circulars. THE LAWRENCE WILLIAMS CO., Toronto, Ont.

Public Sale

MAY 28th, 1902,

— AT —

AMHERST VILLA,
WILLIAMSVILLE, N. Y.

On Main St., 3 1/2 Miles from Buffalo City Line

Jersey heifers and bulls

SIRED BY

GOLDEN BLYTH 49215 (Imported),
GOLDEN BLYTH 2nd 54567, and
GREAT NAME 54245 (Imported).

Write for catalogue.

Estate of Charles Lautz,

704 D. S. Morgan Building,

BUFFALO, - - - NEW YORK.

Settlers' Low Rates West.

Chicago & North-Western R.R.; every day during March and April. Colony one-way second-class tickets at very low rates from Chicago to points in Colorado, Utah, Montana, Nevada, Idaho, Oregon, Washington, California, Vancouver, New Westminster, Nelson, Roseland, and other points in Kootenay District. Also special round-trip Home-seekers' tickets on first and third Tuesdays, March, April and May. Full particulars from nearest ticket agent, or B. H. Bennett, General Agent, 2 East King St., Toronto, Ont.

GOSSIP.

At a meeting of the executive committee of the American Aberdeen-Angus Breeders' Ass'n, recently held, an appropriation of \$4,300 was made for the Chicago International Live Stock Exposition of 1902. The junior classes of bulls and heifers were reinstated in the premium list for that Exposition, making the list the same as that of 1900. The amount devoted to special premiums for car-lots of steers was fixed at \$1,500, and divided into six prizes for both one- and two-year-old steers. The appropriations reported above are in addition to the \$3,200 voted at the last annual meeting for special premiums at the State fairs and Canada exhibitions of 1902.

Hillside Herefords are the property of Mr. A. S. Hunter, of Durham, Ont. At present there are one hundred and twenty head of pure-bred animals in the herd, imported and home-bred. They are all in the pink of condition; in fact, many of them being in show-ring form. This is one of Canada's oldest-established herds of pure-bred Herefords, and it is reasonably safe to say that individually and collectively they will stand the test of comparison with any herd in the country. The herd is headed by that grand old stock bull, Imp. True Briton, a bull that has done Mr. Hunter splendid service both in the herd and show-ring. Two other bulls in service at present are: March-On 2nd, bred by W. S. VanNatta & Sons, Fowler, Ind.; sired by that great bull, March-On 76035; dam Imp. Minnie; and Likely Lad 578, sired by the noted Commodore 402; dam Lily Wilton 654, by Imp. Conqueror. Although Mr. Hunter has sold a large number of animals, there are yet on hand for sale 7 yearling bulls and 15 yearling heifers, that are typical animals, and will not stay long at the prices asked.

A RECORD-BREAKING HEREFORD SALE.

Four hundred and eighty-one thousand dollars was the price paid last month by Geo. A. Ricker, a Quincy Illinois, banker, for the Riverside Hereford Cattle Company's ranch and herd of 1,200 head of registered Hereford cattle, at Ashland, Nebraska. This is believed to be the largest transfer of registered cattle that has ever been made. The cattle alone were estimated at \$300,000 in the deal.

BRANTFORD
Patent Roller and Ball-Bearing Galvanized Steel
Windmills, Towers and Flagstuffs.
"Maple Leaf" Grain Grinders, Wood, Iron and Spray Pumps.
Send for new illustrated Catalogue.

OLD SHAPLEY & MUIR CO. LIMITED
BRANTFORD CAN.

EIGHTH ANNUAL Canadian Horse Show
UNDER THE JOINT AUSPICES OF
The Canadian Horse Breeders' Association
and The Toronto Hunt, Limited,
WILL BE HELD AT
The Armouries, Toronto, Can.,
ON
THURSDAY, FRIDAY and SATURDAY,
April 10, 11, 12, 1902

Entries close on Saturday, March 29, 1902, and should be addressed to HENRY WADE, Parliament Buildings, Toronto.

Nitrate of Soda
THE STANDARD AMMONIATE FERTILIZER FOR
MONEY CROPS
CORN, FRUIT, HAY, SUGAR BEETS, AND WHEAT.
Send post card for formulas and free bulletins.
William S. Myers, Director,
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HAMMOND'S EARLY MICHIGAN POTATO
This Marvelous Extra Early Potato originated by HARRY N. HAMMOND SEED CO. Ltd. Box 225 BAY CITY, MICH.
Largest growers of seed potatoes in America. 30 best varieties. Northern Grown always best. Blight proof. enormous yielders, highest quality. Lowest price for lb., bbl., or carload. Elegant 100-page Bargain Seed Catalogue FREE. Write for it today.

EGGS FOR HATCHING.
Barred Rocks (exclusively) bred from C. Mueller's noted prize winners, carefully selected and mated as to color, shape and size, \$1 per 13. Give me a trial and be convinced that my stock is right. **ALLEN SHANTZ, Waterloo, Ont.**



PLOWING MADE EASY
The Wonder Plow Attachment can be attached to beam of any plow; regulates depth and width of furrow; saves one-third draft on horses; relieves all labor of man, as you need not hold plow handles to do perfect plowing, 10-year-old boy can plow in hardest soil. Agents Wanted. Fast seller everywhere. Good money for enterprising agents. Address at once:
WONDER PLOW CO.,
Room 10, Hiscox Building, London, Ontario.

GOSSIP.
Messrs. Smith & Richardson, Columbus, Ont., importers and breeders of Clydesdales, who advertise a number of choice stallions and mares, report the sale of the imported stallion, King's Cross (10070), to the Clydesdale Association of Markham, of which Mr. George Gormley, of Unionville, is president, and Mr. R. C. Telfe is secretary-treasurer. It is thought and acknowledged by competent judges that King's Cross (10070), by Sir Eberard (5353) and half-brother to the renowned Baron's Pride (9122), is the best Clydesdale stallion in Ontario.

Three exceptionally well-bred Shorthorn bulls are advertised for sale by Mr. N. A. Steen, Streetsville, Ont., whose Whitehall Stock Farm is situated in the County of Peel, about two miles from Streetsville Junction, on the C. P. R., and six miles from Brampton, G. T. R., where a small, but well-selected, herd of Scotch-bred Shorthorns of the Cruickshank, Cecilia and Missie families is kept. The three bulls offered for sale are good ones: British Earl 37284, three years old, by British Comet; dam Maggie Earl, by Imp. Toft-hills, Republican Statesman 39904, one year old, by Republican; dam Cecilia 17th, by Imp. British Statesman, Republican's Heir 39905, one year old, by Republican; dam Cecilia, 10th, by Brighton Lad. Their sire, Republican 30859, is by Indian Brave 21500, by Imp. Indian Chief; dam Mina of Sylvan, by Norseman. These bulls can be bought right.

SALE OF MR. F. A. GARDNER'S SHORTHORNS.

The dispersion sale by auction, on March 20th, of the Shorthorn herd of Mr. F. A. Gardner, Britannia, Ont., was quite successful and satisfactory, the attendance being large and representative, breeders being present from all parts of Ontario and several from the United States. The animals were in good condition, showing careful fitting, and, as a whole, were a good, useful lot. The better animals, with good straight pedigrees, showed their superiority by the spirited bidding for them and the larger prices they sold for. The fine imported two-year-old heifer, Scotch Thistle, bred by Mr. John Marr, Cairnbrogie, sired by Prince Cruickshank 75277, and in calf to Imp. Luxury 74958, bred by Mr. Bruce, Inverquhomery, fell to the bid of Mr. J. M. Gardhouse, Highfield, Ont., at \$565, the top price of the sale. The imported bull, Scotland's Fame 26063, of Mr. Manson's Kiblean Beauty tribe, bred by Mr. Garden, Tolquhon, and sired by the Collynie-bred, Golden Ray 67122, went to Col. John A. McGillivray, of Uxbridge, Ont., at \$300, and the handsome red ten-months bull calf, Golden Prince, bred by Mr. John Gardhouse, Highfield, bred by his imported Lancaster bull, Prince Louis, and of the Kinellar Claret family, was taken by Mr. L. Parkinson, Erasmosa, at \$225. Mr. John Smith, M. P. P., Brampton, conducted the sale with his usual tact and courtesy, and Mr. Gardner was well pleased with the result. The average for all sold, old and young, was \$148.

Following is the list of sales and purchasers:

Females.	
Scotch Thistle (imp.) 2 years; J. M. Gardhouse, Highfield.....	\$565
Marchioness 10th, 3 years; W. D. Flatt, Hamilton.....	280
Marchioness 9th; S. J. Pearson & Son, Meadowvale.....	280
Thrift, 4 years (and h. c.); W. Dredge, Nassagaweya.....	210
Rosa Empress, 4 years; W. D. Flatt.....	200
Violet of Rosedale, 7 years; W. Baldock, Mt. Charles.....	185
Flo 2nd, 9 years (and calf); J. Hamilton, Lisgar.....	155
Rose of Peel, 2 years; Stewart Anderson, Camilla.....	145
Rose Saxon 2nd (and b. r.); G. Bell, Brampton.....	140
Nellie, 2 years; Stewart Anderson.....	135
Mysie 47th, 9 years; W. H. Easterbrook, Freeman.....	105
Rose Saxon 3rd, 1 year; J. Anderson, Alliston.....	100
Nance, 3 years; J. Ackrow, Highfield.....	100
Princess Gwinnie 19th, 6 years; C. Green, Hillsburg.....	95
Edmonta 3rd, 10 years (and calf); J. Ackrow.....	80
Minerva 7 years; W. D. Flatt.....	80
Minerva's Pride, 2 years; R. Mitchell, Nelson.....	80
Rose of Peel, 6 years; W. Baldock.....	85
Rose Saxon 4th, 1 year; G. Bell, Brampton.....	75
Violet of Hadden Hill, 1 year; J. M. Gardhouse.....	75
Laura, 1 year; W. D. Flatt.....	70
Lottie, 1 year; W. Harris, Meadowvale.....	60
Bulls.	
Scotland's Fame (imp.), 4 years; J. A. McGillivray, Uxbridge.....	\$300
Golden Prince 10 months; E. S. Parkinson, Erasmosa.....	225
Scottish Duke, 2 years; W. Ellis, Kimberley.....	135
Scotland's Pride 1 year; G. Henry, Caldwell.....	110
Standard's Heir, 2 years; C. Green Royal Briton, 1 year; J. Smith, Brampton.....	100
Nortonville Prince, 2 years; G. Death, Dixie.....	100
Scottish Lad, 6 months; W. Baldock.....	65
Britannia Duke, 1 year; W. Wilson, Sandhill.....	—

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THE finest built machine of its kind in the world. Made from the best material that money can purchase, by the most skilled expert mechanics obtainable from both sides of the Atlantic. All this, backed up by twenty-five years' experience in this particular line of work, and a well deserved and unapproachable reputation, are reasons why you can safely leave separator experimenting to some one who has time and money to waste.

Ask us for other reasons why.

The De Laval Separator Co.
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NEW YORK
CHICAGO
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CREAM SEPARATORS

DON'T
BUY A SEPARATOR UNTIL YOU HAVE SEEN THE
National.

EXAMINE
The simplicity of the design. All wheels and bearings protected, being perfectly safe in the hands of a child. It has anti-friction ball bearings. Few parts to wash—only two pieces inside the bowl. The National is made by The Raymond Mfg. Co. of Guelph, whose success with the celebrated Raymond Sewing Machine is sufficient guarantee of the high finish and workmanship. In 1901 five machines a day were manufactured. For 1902 the capacity is increased to 25 machines per day, showing the satisfaction given by the National in the past two years. The 1902 National contains all the strong points found in other separators, and is placed on the market with the guarantee of being the best and most up-to-date machine in every particular offered to the Western farmers to-day.

The National will well repay investigation by intending purchasers.
National No. 1, capacity 330 to 350 lbs. per hour.
National No. 1 A, capacity 450 to 500 lbs. per hour.

AGENTS WANTED IN UNREPRESENTED DISTRICTS.

The Raymond Mfg. Co. of Guelph, LIMITED.
GUELPH, ONT.
WE ALSO MAKE GOOD SEWING MACHINES.

U. S. OFFICIAL VETERINARIANS.
Following is a list of United States Official Veterinarians, furnished by Dr. Salmon, November 27th, 1901, as "A correct list of inspectors to whom are referred practically all of the inspections and tests of cattle for export to Canada":
Bennet, D. S. E., 44 Kilby Street, Boston, Mass.
Corlis, Dr. W. S., Watertown, N. Y.
Cowie, Dr. Chas., Ogdensburg, N. Y.
Cumming, Dr. David, 719 Park St., Port Huron, Mich.
Dealman, Dr. J. F., Sault Ste. Marie, Mich.
Huntington, Dr. F. W., 37 Union St., Portland, Me.
Green, Dr. L. K., Detroit, Mich.
Ketchum, Dr. F. D., South St. Paul, Minn.
Knowles, Dr. M. E., Helena, Montana.
Mayne, Dr. H. D., Malone, N. Y.
Morin, Dr. C. L., St. Alban's, Vt.
Potter, Dr. H. T., Calais, Me.
Russell, Dr. F. L., Orono, Me.
Volgenau, Dr. E. L., Live Stock Exchange Building, East Buffalo, N. Y.
Ward, Dr. G. W., Newport, Vt.
Zink, Dr. C. H., Live Stock Exchange Building, East Buffalo, N. Y.

BRITISH COLUMBIA FARMS.

If you are thinking of going out to the Pacific Coast, try British Columbia. A delightful climate; no extremes of temperature; fertile land; ample rainfall; heavy crops, rapid growth, and splendid market for everything you raise, at good prices. The celebrated valley of the Lower Fraser River is the garden of the Province. Write for farm pamphlet telling you all about it, and containing a descriptive list of farms for sale.

THE SETTLERS' ASSOCIATION OF B. C.
BOX 540, VANCOUVER, B. C.

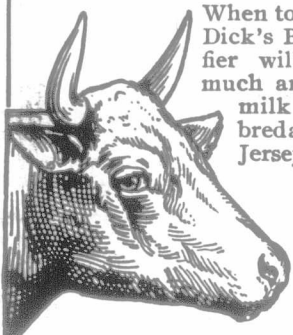
SITUATION WANTED

As manager or foreman on large farm, by capable married man, with thirteen years' experience in Canada. Best of references. Address: om
P. F. R., FARMER'S ADVOCATE,
LONDON, ONTARIO.

1,000 Feet Above Sea Level.

The Muskoka Lakes District, situated in the "Highlands of Ontario," is one of the most charming summer resorts in the world. Its high altitude guarantees the purest of air, pleasant days and cool nights, no flies nor mosquitoes. Perfect immunity from Hay Fever assured. Modern, up-to-date hotels, with first-class service. A few weeks can be spent in this region, with pleasure and profit, at a reasonable outlay. Hand-some illustrated descriptive matter giving full particulars may be had free by applying to M. C. DICKSON, District Passenger Agent, Union Station, Toronto.

A Common Bred Cow



When toned up by Dick's Blood Purifier will give as much and as rich milk as a highly bred aristocratic Jersey cow gives upon ordinary feed, and a Jersey cow when given.

DICK'S BLOOD PURIFIER

will wonderfully increase her yield of milk. It saves feed too, because a smaller amount of well digested food satisfies the demands of the system and every particle of nourishment sticks.

50 cents a package.

Leeming, Miles & Co., Agents,
MONTREAL.
Write for Book on Cattle and Horses free.

Prizewinning Carriage Stallion

JINGLE BELLS.

Full brother to Dr. Ling 16523 (winner at World's Fair). Bay stallion, 16 hands high. Good style and action. Will be sold cheap to close a partnership. Apply to om

LORNE STOCK FARM, WEST LORNE, ONT.

Special Excursions to California.

For the meeting of the Independent Order of Foresters at Los Angeles, April 29th, cheap round-trip rates will be in effect via the Chicago, Union Pacific and North-Western lines. Rate from Toronto, \$62.00, and proportionately low rates from other points in Canada. Three through trains daily from Chicago, with Pullmans, tourist sleepers, and free reclining-chair cars. Select the best route, affording finest scenery and quickest time. Choice of routes returning. Full information and special folder of this excursion can be obtained from B. H. BENNETT, General Agent, 2 East King Street, Toronto, Ont.

Cash for REAL ESTATE

no matter where it is. Send description and cash price and get my wonderfully successful plan. **W. M. OSTRANDER**, North American Bldg., Philadelphia, Pa.

DR. PAGE'S ENGLISH SPAVIN CURE



For the cure of Spavins, Ringbone, Curbs, Splints, Windgalls, Capped Hoof, Strains or Bruises, Thick Neck from Distemper, Ringworm on Cattle, and to remove all unnatural enlargements. This preparation (unlike others) acts by absorbing rather than blister. This is the only preparation in the world guaranteed to kill a Ringbone or any Spavin, or money refunded, and will not kill the hair. Manufactured by DR. FREDERICK A. PAGE & SON, 7 AND 9 YORKSHIRE ROAD, LONDON, E. C. Mailed to any address upon receipt of price, \$1.00. Canadian agents: om
J. A. JOHNSTON & CO., DRUGGISTS,
171 KING STREET, EAST, TORONTO, ONT.

The prizewinning carriage stallion, Jingle Bells, full brother to the World's Fair winner, Dr. Ling, is offered for sale in our advertising columns.

We are indebted to Messrs. W. C. Edwards & Co., Rockland, for a copy of their 1902 catalogue of the Pine Grove herd of Shorthorns, containing the pedigrees of 133 animals, a large proportion of which are imported, and nearly all bred from prominent Scotch families.

A veteran trotting-bred stallion, Hugo 17507, by Electioneer, the great trotting sire, is advertised elsewhere in this issue by Hopkins Bros., Fort Fairfield, Maine, to be exchanged for a registered Clydesdale stallion that has proved a good breeder. Parties having such and seeing a field for a profitable exchange, should correspond with Messrs. Hopkins if they mean business.

Eggs for hatching from the noted flock of Barred Plymouth Rocks of Mr. W. J. Campbell, at Snelgrove, Peel Co., Ont., are advertised in this issue. Mr. Campbell writes that last season he imported eggs from Iowa and Illinois, of Ringlett, Montauk and National strains, and that of seven cockerels he is using this season not one is of his own stock, as he does not inbreed. The Snelgrove pens have an excellent reputation, the eggs and stock sent out in former years having given uniformly good satisfaction. See the advertisement and mention the "Advocate" when ordering.

Mr. Auguste Dupuis, Secretary of the Canadian Commission at the Paris Universal Exposition, favors us with a copy of his report on the display made by Quebec Province, together with special references made to the exhibits of Ontario manufacturers, the magnitude, variety and high merit of which astonished the juries. Mr. Dupuis is to be congratulated upon this excellent permanent record of the honorable position taken by Canada at Paris in 1900.

At a public sale of Shorthorns, on March 19th, at Omaha, Neb., from the herds of Messrs. Geo. E. Ward, Hawarden, Iowa; C. A. Saunders, Manilla, Iowa, and others, 30 females sold for an average of \$408.85, 29 bulls for an average of \$242.35, and the whole 59 head for an average of \$327. The highest price of the day was \$1,300, for Mr. Ward's Imp. Jessica, a roan yearling heifer, by Golden Star. She was carrying a Lord Banff calf, and was purchased by Walpole Bros., Rock Valley, Iowa.

Messrs. C. & J. Carruthers, Cobourg, Ont., breeders of Shorthorn cattle, Yorkshire and Berkshire hogs, and Barred Plymouth Rock fowl, write that the two yearling bulls they are offering are choice ones, nicely bred, in real good breeding condition, and will be sold at reasonable prices. Both are red and were a year old in March, sired by Royal Charlie 30118 and British Hope 30946, prizewinning bulls of the Cruickshank Nonpareil and Maid of Primrose families, and from good milking cows and breeders of prize stock. Messrs. Carruthers are also offering Barred Rock eggs at \$1 per setting from a pen headed by a cockerel whose sire was a winner at the New York Show in 1901.

Messrs. H. Cargill & Son, Cargill, Ont., have recently issued a new catalogue of their famous Cargill herd of Shorthorns, containing the pedigrees of 66 animals, the great majority of which are imported Scotch-bred representatives of such choice families as Cruickshank Butterfly, Brawith Bud, Broadhooks, Clara, Claret, Dainty, Emma, Strawberry, Lancaster, Matilda, Mayflower, Mina, Missie, Mysie, Augusta, Duchess, Bessie, and others equally famous. The stock bulls are Golden Drop Victor, Count Douglas, and Marenco's Heydon Duke, all imported and from prominent herds in Britain. The herd is a choice one and has been selected and bred with a view to getting together a lot of breeding cows that would challenge comparison with any other in America. No expense has been spared to get the best, and the cream of a large number of importations has been kept for the purpose of reinforcing the breeding herd.

John B. Pettit, Fruitland, Ont., breeder of high-class S. C. Barred Rocks, S. C. Brown Leghorns, and S. C. Black Minorcas, advertises in this issue eggs for hatching of these varieties, and writes us: "The stock from which eggs will be furnished is equal to the best. All the breeds have been carefully bred for years, and, as a result, have reached a high degree of perfection. Leghorns of this strain have been winning highest awards at the leading poultry shows in Canada for five years, and were among the winners at the great Pan-American. The Minorcas have also blue blood, as the strain has successfully competed with the best. The Barred Rocks originated in the famous Thompson yards, and have been carefully bred since, looking toward increase of egg production, as well as standard requirements. These breeds are all heavy layers, as it is my desire to increase this characteristic to its limit. This season I have already sold several birds at good prices, and as yet have not received a single complaint."



...THE HOME... ENVIRONMENTS

Are greatly improved by the judicious planting of Hardy Ornamental Shrubs, Hardy Perennial Plants, Hardy Roses; there is nothing better in the floral line for rural grounds. They are so easily managed, and live from year to year with very little care. We have the largest and most complete stocks in Canada. We sell direct to the planters. Our plants cannot be procured through agents. Our handsome illustrated price list, "Canadian Plants for Canadian People," gives full descriptions and prices. Write for it. om

To get you acquainted with our Canadian-grown plants and catalogue, will send these 5 Everblooming Roses, correctly named: 1 white, 2 pink, 1 crimson, 1 golden-yellow—one-year-old plants—for only 30c. Two or more sets at 25c. Cultural directions with each order.

Webster Bros.,
HAMILTON, CANADA.

A BARGAIN! A LARGE CONSIGNMENT OF

Basic Slag

FROM SCOTLAND, TO BE SOLD AT HALF PRICE.
\$17.00 per ton, Toronto.

The best fertilizer for grasses, clover, roots, corn, etc. Used more in Great Britain than any other manure. Write for pamphlets.

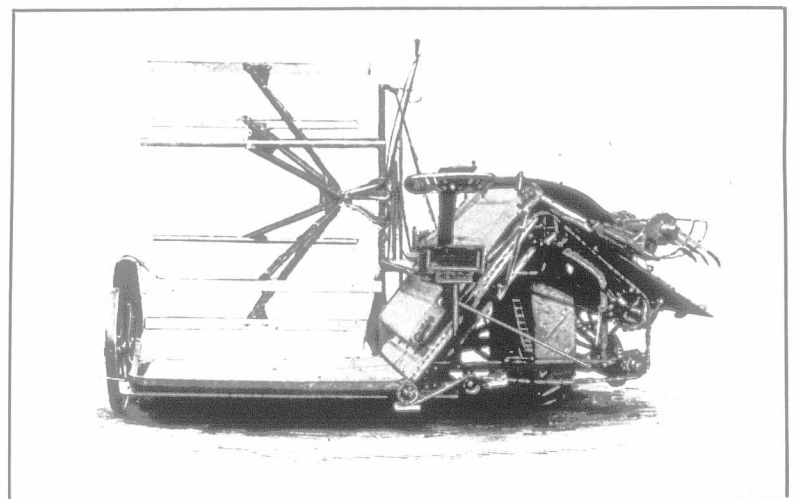
GEORGE KEITH, Seed Merchant, TORONTO.

Send for Seed Catalogue and for samples of pure clover and timothy seed.

THE NOXON

OPEN-BACK BINDER

Is Acknowledged by Practical Farmers to be the Best.



SOME SPECIAL FEATURES:

- Built of Steel Throughout.
- Open Back.
- Removable Dividers.
- Telescopic Packer Shaft.
- Three Packers.
- Weight Trip.
- The Lightest Made.
- A Pair of Ponies Can Handle It.
- Runs Without Noise.
- Always Reliable.
- No Neckweight.
- Handles Tangled Grain Perfectly.

EVERY PURCHASER GIVES A TESTIMONIAL.

THE NOXON CO., LTD., INGERSOLL, ONT.

DENTONIA PARK FARM EGGS

S. C. Leghorns—White, Buff and Brown - \$1.50 per 13.
Andalusians, White Langshans, - - - - - 1.50 per 13.
White Wyandottes, - - - - - 1.50 per 13.
Pekin ducks (special matings), - - - - - 5.00 per 100.

S. C. White Leghorn breeding pens mated with cocks direct from Wychoff's stock, of Grooton, N. Y. Stock for sale. Correspondence solicited.

ESTATE OF W. E. H. MASSEY, Proprietor.

O. REYNOLDS, Coleman, Ontario.

NOTICES.

START NOW.—The spring term in the Central Business College, Stratford, Ont., begins April 1st. This college is well known for its first-class work, and the present is a favorable time to commence a course of training.

THE MASSEY-HARRIS COMPANY advertise in this paper their famous harvesting machines, which are known throughout the civilized world as up-to-date in every respect and always improving. Write them for their circular and catalogue, mentioning the "Farmer's Advocate."

ON ANOTHER PAGE OF THIS PAPER appears an attractive advertisement of the McCormick Harvester Co., Chicago, Ill., calling attention to their machines, which have gained a world-wide fame. Readers of the "Farmer's Advocate" should write them for "The World-Center," a beautiful and interesting book, which is mailed free to all mentioning this paper.

THE USE OF THE INCUBATOR in poultry-raising is now regarded as an essential in extensive operations, and it is being more generally adopted every year by those engaged in the business in a smaller way. More uniform lots of chickens are secured by its use and early maturity is attained, enabling poultrymen to catch the early market for chickens, when the prices are highest. The Prairie State Incubator Co., of Homer City, Pa., whose advertisement appears in this paper have had long experience in manufacturing incubators, and claim to have the largest and most complete incubator factory in the world, and have won 342 premiums, awards and medals in different countries. Their new catalogue, which they state cost them \$15,000 to publish, is ready for distribution, and is one of the finest and most complete ever produced. They have booked this spring an order for 1,000 incubators to be shipped to New Zealand. Send for the catalogue, and mention the "Farmer's Advocate."

FARM FENCING.—The season is at hand for various farm improvements, foremost among which is fencing. Wire in various forms is now the most common and deservedly popular style of fencing among good farmers. Readers in search of information on this practical subject are referred to the announcements of the following firms, which appear elsewhere in this issue of the "Farmer's Advocate": H. R. Lamb, London, Ont.; Canada Steel & Wire Co., Ltd., Hamilton, Ont.; Carter Wire Fence Machine Co., Ridgetown, Ont.; Frost Wire Fence Co., Ltd., Welland, Ont.; Page Wire Fence Co., Ltd., Walkerville, Ont.; Oshawa Wire Fence Co., Ltd., Oshawa, Ont.; London Fence Machine Co., Ltd., London, Ont.; Strathy Wire Fence Co., Ltd., Owen Sound, Ont.; McGrewer & Banwell Co., Windsor, Ont.; Anchor Wire Fence Co., (Esplen, Frame & Co.), Stratford, Ont.

THE SHEEP-SHEARING MACHINE as manufactured and sold by the Chicago Flexible Shaft Co. is voted a complete success by all who have used it. Visitors to the International Show at Chicago last year were delighted with the demonstrations of its capabilities, all grades of sheep being neatly and quickly shorn in the buildings every 10 to 15 minutes each day during the show with the latest patent hand-power shearing machine. We have just received a beautiful catalogue published by the Chicago Flexible Shaft Co., illustrating their hand and power shearing machines, together with valuable hints on shearing by R. M. Marquis, champion of the world, who has a record of shearing 364 sheep in one day. This catalogue should be in the hands of every sheep owner, and will be sent on request by addressing the manufacturers at Chicago.

The Angus Breeders Meet.

A number of the breeders of Aberdeen-Angus cattle, meeting together at the Provincial sale at Guelph, discussed the merits of the breed and their success in the past and the great possibilities of their future. All were of the opinion that something should be done to enhance the interest of the breed in Canada. They therefore decided to meet at the Commercial Hotel in that city, at 1:30 p. m. on the 26th of February, when, after some discussion, it was thought best to form an association, not to interfere with the American Aberdeen-Angus Breeders' Association of America, as all were thoroughly satisfied with the workings of that Association, but to give a stimulus to the business in Canada, and the following officers were therefore elected: President, James Bowman, Guelph; Vice-President, John Varcoe, Goderich; Secy.-Treas., J. W. Burt, Coningsby; the executive committee to be composed of the president, vice-president, secretary, and the following members: William Stewart, Lucasville; Walter Hall, Washington; Alexander McKinnon, Hillsburgh; James Sharp, Rockside; and James A. McLeod, Plainville; the name chosen for the Association being the Canadian Branch of the American Aberdeen-Angus Breeders' Association; the fees to be charged for membership to be \$1. All who are interested in the breeding of Angus cattle should help on this good work, as the aim of the Association is the promotion of the breed in general in Canada. All correspondence with the secretary will be promptly attended to.

MOWER - FRAME STRENGTH

THE FRAME ON THE

MASSEY - HARRIS MOWERS

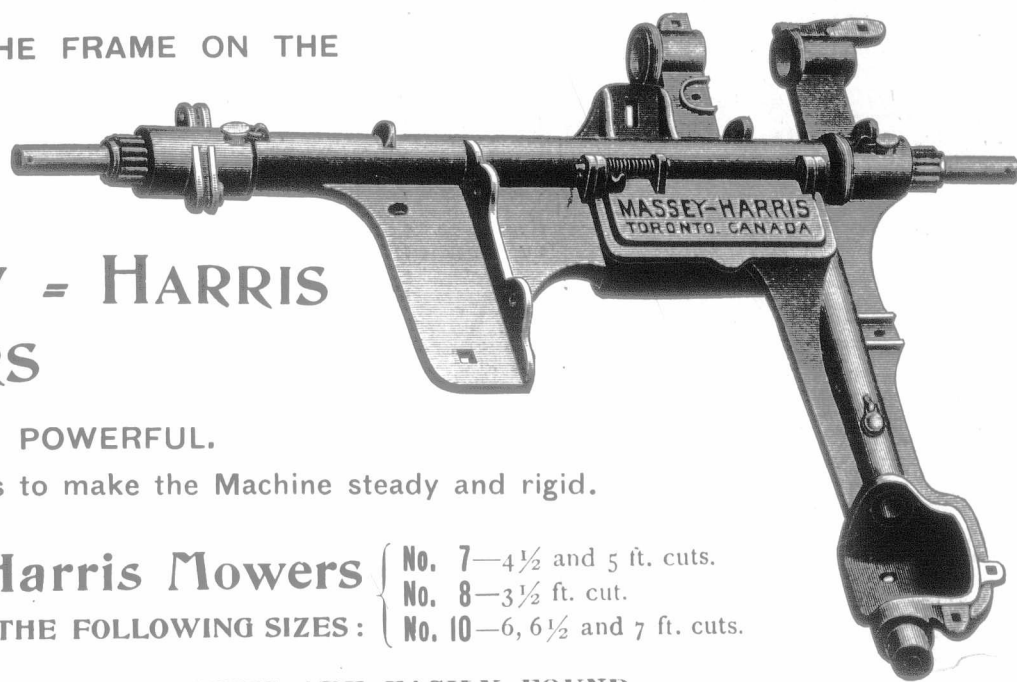
IS VERY POWERFUL.

This helps to make the Machine steady and rigid.

Massey-Harris Mowers { No. 7—4½ and 5 ft. cuts.
No. 8—3½ ft. cut.
No. 10—6, 6½ and 7 ft. cuts.

ARE MADE IN THE FOLLOWING SIZES:

MASSEY-HARRIS AGENTS ARE EASILY FOUND.



Corn Planting

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Shires, Shorthorns, and Leicesters.

Young stock of both sexes for sale. Imported Prince Louis = 32082 = heads the herd. Write for prices or come and see them. **John Gardhouse, Highfield P. O., Weston, G. T. R. and C. P. R.**

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Stallions from sucking foals up. Brood mares and fillies of superior quality and breeding. A few grand young Shorthorn heifers, bred in the purple. Special mention, the great four-year old stallion "Prince Lyon."

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PEARL OF SAVOY, said by Prof. Zavitz, of O. A. C., to be one of the very best varieties for general use, 80c. per bushel of 50 lbs. Bags free.

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BLACK HORSE HOTEL, FRONT STREET, TORONTO, ONT., on Wednesday, March 5th, for one week; after that at our own stables, London, Ont. Any one in need of a good stallion should not miss seeing our stock before buying. Prices right. Apply: **JAMES DALGETY, 229 HYMAN STREET, LONDON, ONTARIO.**



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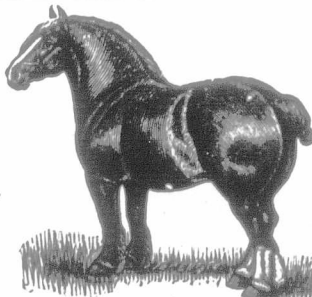
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For Sale: 16 head of bulls and bull calves; also a large and choice lot of cows and heifers of all ages.

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11 registered mares, 6 of which are in foal to such notables as Royal Cairton, Prince Patrick and Lord Lyndock; also 2 young stallions.

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Large English Berkshires.

My herd consists of sows imported from England; three of them (including a show sow) were selected from the herd of Geo. Green and were bred to his show boars. Young stock for sale (not akin); **JNO. LAHMER, VINE, ONT.**

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SHORTHORN CATTLE, LEICESTER SHEEP.
One extra good Shorthorn bull, 16 months old, red, by Imp. Prime Minister, g. sire Imp. Warfare. My motto: "The best is none too good."

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om MALTON, G. T. R.; WESTON, C. P. R.
Rosedale is fifteen miles west of Toronto.

Clydesdale Stallion FOR SALE. Rising three years old. Sire is of Darnley strain. Good color, size and bone. Price right. Come and see, or address: -o
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Clydesdales for Sale. Imported and Canadian-bred stallions for sale, also registered Clydesdales. Fillies from one to three years old. Terms reasonable. -o
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4 Imp. Clydesdale Stallions 4

Amphion, Vol. 24, 2 years old, bay; Bucepholus, Vol. 24, 2 years old, black; Voyageur, Vol. 24, 2 years old, brown; Lord Garty, Vol. 23, 4 years old, brown. Representing the blood of Golden Sovereign, Sir Christopher, Montrave Matchless, and Royal Garty.
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One seven-year-old. om
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Three two-year-olds.

Also a few mares and fillies of good size and good quality. J. Devitt & Sons, Freeman P. O., Ont. Burlington Junction Station 1/2 mile from farm.

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Our latest importation of 4 stallions is the best we ever made, weighing from 2,000 to 2,200 lbs., and of the well-known Darnley and Prince of Wales breeding. We have a number of pure-bred mares; also some young Canadian-bred stallions and fillies. Write for prices. om

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7 Canadian-bred Cows and Heifers.
3 Imported Shorthorn Bulls. om
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A Clydesdale stallion, rising 3 years old. In splendid condition; excellent bone and action; a prizewinner wherever shown last fall and fall before.
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GALLOWAYS of the choicest breeding and most fashionable strains. Inspection or correspondence invited. **A. M. & ROBERT SHAW,**
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Imp. Sunny Slope Tom 1st at head. The blood of Lord Wilton, Garfield, Grove 3rd, Beau Real and Diplomat represented. Special offering: 5 bulls, good ones, ranging in age from 9 mos. to 2 1/2 years; 6 young cows and heifers. Inspection and correspondence solicited. 2 choice registered Berkshire boars, price \$10.00 each. om

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A few choice heifers and young bulls by **Mark Hanna**, sweepstakes bull at Pan-American.

Shropshire Sheep and Tamworth Swine.

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"ORCHARD HILL" SHORTHORNS.

Herd comprises representatives of best Scotch-bred families, with Lord Lavender at head. Young animals of both sexes for sale.
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SCOTCH SHORTHORNS, both sexes, all ages. As good as the best.
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SHORTHORNS: 7 young bulls, from 8 to 10 mos. old, sired by Let's Lad and out of deep-milking cows. **H. E. HIND, Hagersville P. O. and Station, G. T. R. and, M. C. R.** om

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We are now offering a number of heifers and heifer calves; a few bull calves; a number of cows; all bred in the purple and as good as the best. Also Shropshire and Cotswold sheep. -om
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Offers young **SHORTHORN BULLS** and **HEIFERS**, of choice breeding, at reasonable prices. Iona Stn. on M.C.R., half a mile from farm.

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Both sexes. IMPORTED AND HOME BRED. All ages. Prizewinners at home and abroad.

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Mercer's Shorthorns for Sale

BULLS and heifers from such families as Matchless, Claret, Missies, Stamfords, Fashions, Buttercups, Isabellas, Princesses, Beatrices, and other choice families. Herd headed by Village Squire =24993= (he by Abbotsford), assisted by a son of old Royal Sailor (imp.). Cows and heifers in calf. Four nice young bulls. Our herd stands at the head of the show-ring in this northern country. Over 40 head now in the herd. Intending visitors drop a card and they will be met at the C. P. R. station, Markdale, one mile from farm. Write for prices. No business, no harm. Our motto: "The best is none too good." om
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Choice Young Bulls and Ram Lambs for sale. Write for prices. om

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Herd headed by the great sire and sweepstakes bull, Abbotsford. Grand crop of calves from imported and home-bred cows. Bulls one year and under for sale—reds and dark roans. Ram and ewe lambs for sale at reasonable prices. o

High-Class Shorthorns

and **YORKSHIRE PIGS.**

2 GRAND show bulls, 16 months old, by Imp. Sirius; 8 bulls from 8 months old up; low-down, thick, fleshy fellows; all bulls of great substance. A few cows and heifers in calf. Yorkshires—A lot of young pigs 3 months old and down. -o

JAS. McARTHUR, - Goble's, Ontario.

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Shorthorn Cattle, Oxford Sheep, and Bronze Turkeys. Young bulls for sale.
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J. & W. B. WATT,

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BREEDERS OF—
Shorthorn Cattle, Clydesdale Horses, Leicester and Oxford Sheep, and Berkshire Pigs.

Our herd contains such families as Matchless, English Lady, Mildreda, Village Buds, Missies, Stamfords, Claret, and Marthas. Royal Wonder =34682=, junior champion of 1901, now heads the herd. A choice lot of young bulls and a few females for sale. We offer our whole flock of Leicesters for sale—thirty-five ewes and ewe lambs and fifteen rams.

Farms 2 miles from Elora Stn., G. T. R. and C. P. R., 12 miles north of Guelph. om

Shorthorn Bulls.

Good ones. Choicely bred. Moderate prices. Send for bull catalogue. Also Scotch-bred cows and heifers.

H. SMITH, HAY, ONTARIO.

Exeter station on London and Wingham branch of the G. T. R. adjoins the farm. om

Scotch Shorthorns

BREEDING FEMALES ALL IMPORTED.

Imp. Golden Drop Victor our present stock bull. Eleven young bulls and some young cows for sale at reasonable prices.

H. CARGILL & SON,

Cargill Station, G. T. R. CATALOGUE FREE. om Cargill, Ontario.

LESS LABOR AND MORE MONEY ON THE FARM.

BUY A LOW-DOWN, THICK-FLESHED

Hillhurst Shorthorn Bull,

Scotch-topped, from Cumberland, Gloucestershire, or Canadian dairy strain, and raise **DEEP-MILKING, BIG-FRAMED COWS AND BABY BEEF** in nature's way. Many cows that do not pay board at the pail will give a handsome return in growing beef. Four handsome young bulls, seven to nine months old, reds and roans, by the celebrated imported sires, "Joy of Morning" and "Scottish Hero," for sale at moderate prices. Low freights.

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G. T. R., 117 MILES EAST OF MONTREAL. om HILLHURST STATION.

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Extract from a letter just received by **The CANADA PAINT COMPANY, Limited,** Montreal, from Mr. A. Strachan, Hardware and Paint Merchant, Kingston, Ontario:

"By referring to your ledgers you will be able to ascertain the number of years we have been selling your paints.

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Kills the Bugs. Feeds the Plant.

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Against destruction by bugs or worms by using **BUG DEATH.**
It kills potato, squash and cucumber bugs; currant, gooseberry and tomato worms, and all bugs and worms that eat the leaves of plants.
BUG DEATH increases yield. It pays to use in every way.
Send for free Booklet.

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NON-POISONOUS. PREVENTS BLIGHT. om

Bug Death Chemical Co., Ltd.,
ST. STEPHEN, N. B.

1833 **Wm. Linton,** 1902
AURORA, ONT.



Has for sale three imported Shorthorn bulls and a few heifers, various ages; also a few home-bred bulls fit for service. This is one of the herds that the late Amos Cruickshank used to resort to for stock bulls.
Aurora is 24 miles north of Toronto, by Metropolitan R. R. Can leave Toronto any time during the day, and be back in Toronto in two hours and a half.

ROSEVALE SHORTHORNS



Are of the up-to-date sort. We have for sale a number of young bulls and heifers of all ages. Marengo Heydon Duke (imp.) heads the herd.
W. J. SHEAN & CO.
Owen Sound, Ont.

Shorthorn Bulls.

Scotch-bred, good color, lots of size and style—rare good ones. Also females all ages. Write for particulars, or, better, come and see them.
DAVID MILNE & SON, ETHEL P. O.,
Huron Co., Ont.
Ethel Station, G.T.R., half mile from farm.

MAKE THE GROCER'S PROFITS.

Why pay your local storekeeper \$1 for 85 cents worth of goods? Buy direct from the manufacturer and importer and save one seventh of your grocery bills.
The average family spends \$280 a year for groceries; we can save you \$40 of this. At the end of each year put this \$40 in the bank at the regular bank interest of 6% and when you are twenty years older you will have a nest egg of \$1411.13 to your credit.
Do not lose any more of your hard-earned money, but write at once for price lists and we will astonish you. Bank references.
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Wholesale Grocers, 1492 Church Street,
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Shorthorns and Leicesters.

Herd Established 1855.
A number of young bulls, cows and heifers for sale. Imported Christopher = 28859 = heads the herd of large cows of grand milking qualities. Also a number of Leicesters of both sexes, from imported foundation.
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Maple Lodge Stock Farm.
ESTABLISHED 1854.

SHORTHORNS.—First-prize milking strains, best Scotch breeding. Young bulls and heifers for sale.
LEICESTERS.—A grand lot of ewes, bred to our imported rams, and a few choice rams, now for sale. Also Bronze turkeys.
A. W. SMITH,
Ailsa Craig Station, Maple Lodge P. O.,
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HIGH-CLASS SCOTCH SHORTHORNS

This herd is headed by the famous show bull, Spicy Robin = 28259 = (bred by J. & W. B. Watt), grandson of Imp. Royal Sailor, and of the noted English family, and contains such noted tribes as Nonpareils, Crimson Fuchsias, Mysias, Butterflies, and Langshires. Short-horns of both sexes. Also a choice litter of Yorkshires, about 4 mos. old, for sale. Address: **George D. Fletcher, Blinham P. O., Ont.**
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SHORTHORNS.

Fashionably bred, of both sexes and all ages. Nothing reserved.
H. PARKER, Durham P. O. and Station.

A QUICK, SHARP CUT

cuts much less than a bruise, crush or tear. Done with the **DEHORNING KEYSTONE KNIFE** is the safest, quick, sharp cut. Cuts from four sides at once. Cannot crush bruise or tear. Most humane method of dehorning known. Took highest award World's Fair. Write for free circular before buying.
Invented and Manufactured by **R. H. MCKENNA, V. S., Picton, Ont.**

SHORTHORNS FOR SALE.

Two good young bulls fit for service. Also females all ages. Herd headed by (imp.) Spicy Marquis.
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MILKING SHORTHORNS.

2 young bulls of good milking strains and A1 quality for sale. Come and see them. Stu. 3 1/2 miles from farm.
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10 SHORTHORN BULLS

From 6 to 18 months old. Nearly all from imp. dams, and sired by the imp. Golden Drop bull, Royal Prince. Catalogue upon application.
John Miller & Sons, Brougham P. O.,
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12 SHORTHORN BULLS.

ALL UNDER TWO YEARS OLD.

PRICE, FROM \$100 UPWARDS.

At the Toronto Industrial, 1900, the herd was awarded first for aged cows, three-year-old cows, two-year-old heifers, sweepstakes for female any age, first for herd (bull and four females), and first for breeder's herd.
Yonge Street trolley cars, from Union Station, Toronto, pass the farm several times a day.

J. & W. RUSSELL,
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Bonnie Burn Stock Farm.

40 rods north of Stouffville Station, Ont., offers Shorthorn bulls and heifers with calf. Shropshire ewes with lamb, and Berkshire pigs. All at farmers' prices. Inspection invited.
D. H. RUSSELL, Stouffville, Ontario.

Shorthorns for Sale.

6 heifers (all in calf), from Imp. British Statesman; also two young bulls, 18 months old. Write for prices.
LOUIS ELLARD, Loretto P. O., Beeton Stn.

W. G. PETTIT & SON,

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IMPORTERS AND BREEDERS OF

Scotch Shorthorns and

Shropshire Sheep,

Are offering 10 Imp. bulls from 10 months to 2 years old; 10 home-bred bulls from Imp. stock, 10 to 15 months old; 40 Imp. cows and heifers, all ages. Home-bred cows and heifers all ages. Also a grand lot of ram and ewe lambs and yearling ewes for sale.
Burlington Jct. Stn. Tele. & Phone, G. T. R.

SHORTHORNS.

THORNHILL HERD, ESTABLISHED 27 YEARS.
Imp. Royal Member and Sailor Champion now at head of herd, which are all bred on straight Scotch lines, and are of the up-to-date kind. Present offering: some choice young bulls.
REDMOND BROS., Millbrook Sta. and P. O.

Shorthorns and Berkshires

Four young bulls, 6 to 12 months old. Pigs, 2 to 6 months old. Pairs supplied not akin.
MAC CAMPBELL, NORTHWOOD, ONT.

A FEW CHOICE

SHORTHORNS

YOUNG COWS AND HEIFERS

In calf to Imp. Prince of the Forest and Prince Ramsden; also a few young bulls fit for service.
G. A. Brodie, - Bethesda, Ont.

HIGH-CLASS SCOTCH SHORTHORNS

of the following families, for sale at moderate prices: Village Girls, Broadhooks, Beaufort Roses, Missies, Clarets, Marr Floras, Nonpareils, Minas and other choice families. Write for catalogue. Shropshire rams and ewes for sale as usual.
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SHORTHORNS:

We are offering 3 extra choice yearling bulls, all from imported sires, straight Cruickshank, with Lavendar and Miss Ramsden dams.
THOS. ALLIN & BROS.,
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Cows and heifers, imp. and home-bred. Bulls, imp. and home-bred—all ages. Representing the fashionable blood of Scotland.
EDWARD ROBINSON,
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WYEBRIDGE, ONT.,
IMPORTER AND BREEDER OF
SHORTHORNS,
OXFORD DOWNS
AND
BERKSHIRE PIGS.
Young stock always on hand.

TROUT CREEK HERD
OF
Shorthorns

Won first prize for herd and the championship for best bull and best female, any age, at Toronto Industrial and Pan-American Exhibitions, 1901. We keep constantly in our herd a choice lot of imported and Canadian-bred cattle of both sexes. Personal inspection invited. Parties desiring to see the herd will be met on arrival of trains if notice is given. Visitors always welcome. Address:

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NOTICE:

I desire to thank the farmers and others for their ever-increasing patronage. We are changing the process of manufacture and improving the quality of Queenston cement from year to year, and beg to assure my patrons that the improvements I am making this winter will still add to the wonderfully good reputation of Queenston cement. I will do all in my power to assist the farmers in getting up first-class buildings that are cheap and labor-saving, with first-class sanitation by a proper system of ventilation held under my own patent. Until the 15th day of April, 1902, Queenston cement will be sold at a reduced price. On and after Feby. 1st I will add a draughtsman to my office staff, and to all patrons of Queenston cement pencil sketches of the most approved farm structures will be furnished free of charge. For particulars write me at this office, or see my agents.

Isaac Usher, Queenston, Ontario.

ARTHUR JOHNSTON, GREENWOOD, ONTARIO.

BREEDER OF POST OFFICE AND TELEGRAPH OFFICE. IMPORTER OF

SHORTHORNS ONLY.

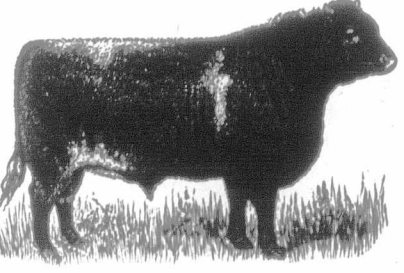
FOR SALE: 9 imported bulls and bull calves. 11 home-bred bulls and bull calves, from imported cows and by imported bulls. 17 home-bred bull calves. A large and excellent lot of young cows and heifers of various ages.

RAILWAY STATIONS: PICKERING, G. T. R., 22 MILES EAST OF TORONTO. CLAREMONT, C. P. R., 28 MILES EAST OF TORONTO.

Spring Grove Stock Farm.

Shorthorn Cattle

AND **Lincoln Sheep.**

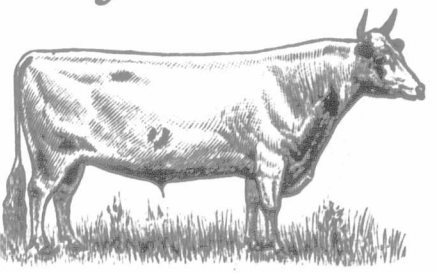


get of the great sire, Wanderer, of the Cruickshank Brawith Bud tribe. High-class Shorthorns of all ages for sale. Also prizewinning Lincolns. Apply

T. E. Robson,
ILDERTON, ONT.

Rapids Farm Ayrshires.

REINFORCED BY RECENT IMPORTATIONS of 2 bulls and 20 cows, selected from noted Scotch herds, and including the male and female champions at leading Scottish shows last year. Imported Douglasdale of Dam of Aber, champion at the Pan-American, heads the herd. Representatives of this herd won the first herd prize at the exhibitions at—



Toronto, London and Ottawa in 1900, and at the Pan-American in 1901.

Come and see or write for prices.

Young Bulls and Heifers for Sale, bred from High-class Imported Stock.

Robert Hunter, Manager
for W. Watson Ogilvie, Lachine Rapids, Quebec.

Shorthorns, Berkshires, Leicesters

Am offering at present the grand stock boar, Crown Prince; also some young ones.
ISRAEL GROFF, ALMA, ONTARIO.

SHORTHORNS: We are offering for sale 8 bulls, from 8 months to 3 years old, by Mungo 2nd and Scottish Bard. Also a few cows bred to Baron's Heir.
ROBT. GLEN, Owen Sound, Ontario.

MAPLE GROVE SHORTHORNS.

I am now offering 5 bulls from 10 months to 2 years old; imp. and home-bred; of the low, fleshy sort. Write for prices.
W. B. CAMPBELL, Campbellcroft P.O., Garden Hill Station.

SHORTHORNS FOR SALE.
Three dark red bulls, 12 mos. old, got by Diamond Jubilee (imp.). One rich roan, 10 months old, got by Favorite 24890. For prices write—
E. & C. PARKINSON, Thorbury P. O. and station; G. T. R.

10 SHORTHORNS FOR SALE

Sired by Scottish Chief and (imp.) Chief of Stars, and from prizewinning dams. Also cows, heifers, and Berkshire pigs.
ALEX. LOVE, - EAGLE P. O., Bismarck Station on M. C. R.

Scotch-bred Shorthorns FOR SALE—One 3-year-old Gloucester dam; three bulls from 9 to 16 months old, from Cecelia dams. Prices right.
N. A. STEEN, on MEADOWVALE STATION and POST OFFICE.

HAWTHORN HERD

of deep-milking Shorthorns for sale. Six young bulls of first-class quality and breeding and from A1 dairy cows.
WM. GRAINGER & SON, Londesboro, Ont.

SHORTHORNS (imported)

One bull, 2 years old, and 1 imported cow, and 7 home-bred heifers.
THOS. RUSSELL, EXETER, ONT.

For Sale: Very heavy, massive cows of Bates old heifers in calf. Stock bull, Imperial 2nd, No. 28823. Bull calf, 11 months (Caucopper Boy 2nd = 39878=) dam Flora = 32974=; also dark red heifer calves. **John McFarlane, Dutton, Ont.**

Scotch-bred Shorthorns AT OAK GROVE ARE famous for size and quality. Eight bulls from 10 to 15 months old; reds and roans. Several heifers at prices that will save you money. Also Collie pups.
L. K. WEBER, Hawkesville P. O., Ont., Co. Waterloo, St. Jacob's Station, G. T. R.

SCOTCH SHORTHORNS.

We are now offering a few young bulls, from 6 to 11 months; also a few heifers, from 6 months to 2 years; all showing No. 1 quality.
W. G. HOWDEN, - on COLUMBUS P. O.

FOR SALE: Durhams (bulls), 5 to 16 months; 5 young cows and heifers. Berkshire pigs, both sexes. Prices reasonable. "Camden View Farm."
A. J. C. SHAW & SON, Thamesville P. O.

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SHORTHORNS, SHROPSHIRE, YORKSHIRE, SCOTCH COLLIES.
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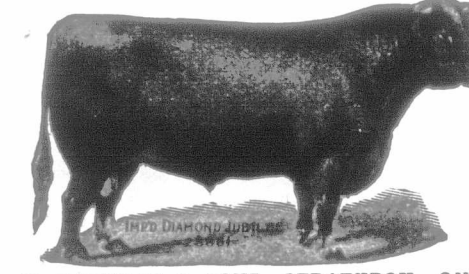
SHORTHORNS.

One bull, 1 year old; two bulls, 7 months old; a few heifers of choice breeding and superior quality.
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Scotch Shorthorns.

Twenty-five (imp.) bulls and heifers of following families: Jilt, Roan Lady, Augusta, Rosebud, Mayflower, Rosemary, Beauty, Victoria, Orange Blossom and Princess Royal. Also home-bred heifers in calf to imp. bulls and choice bull calves.
Burlington Jct. Station and Tele. Office.



T. DOUGLAS & SONS, STRATHROY, ONT.

Shorthorns & Clydesdales

100 SHORTHORNS TO SELECT FROM. Herd bulls (imp.) Diamond Jubilee = 28861= and Double Gold = 37852=—April offering: Eight grand young bulls, and cows and heifers of all ages. Clydesdales: One 13-year-old stallion and one 4-year-old mare (in foal). Farm one mile north of town. om

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Two bulls ten months old, two heifers one year old, one three years old in calf. Write for prices.
JAS. RIDDEL, BEETON P. O. and STN.

QUEENSTON HEIGHTS SHORTHORNS

SCOTCH AND SCOTCH TOPPED
In service: Derby (imp.) = 32057=; Lord Montala, by Collynie Archer (imp.) = 28860=—Some choice heifers and young cows with calf at foot or in calf to imported bull at moderate prices.

HUDSON USHER,

QUEENSTON, ONT. om
FARM 3 MILES NORTH NIAGARA FALLS

SHORTHORNS.

We are offering three choice-bred young bulls, 1 yr. old, two 8 months old—heavy-milking strain.
JAMES BROWN, NORVAL STN. and P. O.

W. J. WALKER, EADY P. O., ONTARIO, BREEDER OF Scotch and Scotch-topped Shorthorns, Barred Plymouth Rock fowls, and Bronze turkeys.
R. R. station: Coldwater. G. T. R. Write for prices.

ASHTON FRONT VIEW STOCK FARM.

Six Shorthorn Bulls for sale, from 8 to 15 months old; all of choice breeding. Also Cotswolds of all ages for sale at all times. Visitors welcome.
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CHOICE SHORTHORNS.

4 bulls, from 5 to 17 months old, sired by Ashburn Duke; also a few heifers, sired by Indian Duke; for sale.
J. R. HARVIE, Orillia P. O. and Station.

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BREEDER OF SHORTHORNS & SHROPSHIRE. YOUNG STOCK FOR SALE.

SHORTHORNS—

Scotch and Scotch-topped. War Eagle = 27609= at head of herd. Young bulls, cows and heifers for sale. Railway station: Coldwater, Midland branch, G. T. R. Write for prices. **S. Dunlap, Eady P. O., Ont.**

SHORTHORNS.

FOR SALE: 2 choice bulls—one 20 months old and the other 11 months. Also Barred Rock eggs, \$1 per setting. Millar strain. Write: **C. & J. CARRUTHERS, Cobourg, Ont.**

Shorthorn Cattle, Lincoln Sheep

Imp. Prime Minister at head of herd. Imp. Clippers, Miss Ramsdens, and other Scotch families. Lincolns won more than half the money and first for foot at the Pan-American; International, Chicago, 1901 and 1902.
J. T. GIBSON, on DENFIELD, ONT.

Hillside Shorthorns and Shropshires.

Bulls, from 8 to 18 months old; heifers, various ages, of true type and fashionable breeding; also 25 ram lambs and 15 ewe lambs, from imp. sire. Will quote prices right for quick sales.
L. Burnett, Greenbank P. O., Ont.; Uxbridge Sta., G. T. R.

4 HOLSTEIN BULLS 4

FOR SALE: From 4 to 7 months old, having sires in their pedigrees from such strains as Inka, Netherland, Royal Aaggie, and Tritonia Prince, and out of imported females that have proven their worth at the fair. **THOS. B. CARLAW & SON, Warkworth.**

25 HOLSTEIN CALVES

For March, April and May delivery, from such noted strains as Homestead De Kol, Abbecker Chief, and Corella Ykema, imported, and others. We have spared no expense in getting the best pedigrees furnished. Express prepaid. Safe arrival guaranteed.
H. GEORGE & SONS, CRAMPTON, ONT. om

Brookbank Holsteins

16 to 25 lbs. of butter in 7 days' official test are the records of this herd of Holstein cows. Heifers of equivalent records. Bulls for sale whose sires and dams are in the Advanced Registry, with large official butter records.
GEO. RICE, Currie's Crossing, Ontario, OXFORD COUNTY.

HOLSTEIN BULLS.

Two excellent bulls, 15 and 18 months old, of De Kol breeding, for sale at a bargain if taken at once. For particulars address
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PLEASE MENTION FARMER'S ADVOCATE.

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Five bulls, 9 to 11 months old, for sale. Victor De Kol, Pieterje and Johanna Rue 4th's Lad head the herd.
MATT. RICHARDSON & SON, HALDIMAND CO. CALEDONIA, ONT.

Spring Brook Holsteins, Tamworths, B. Rocks

One bull, 11 mos. old; 2 calves, 6 weeks old; 4 yearling heifers in calf; 2 cows; also heifer calves, all Dekols. Two Tamworth boars ready for service. Sows and young pigs ready to ship.
A. C. Hallman, Breslau, Ontario.

FOR SALE: JERSEY BULL.

Carlo of St. Lawrence, A.J.C.C. 52387; four years old; weighs 1,400 pounds; solid color; strikingly handsome; gentle and kind. For pedigree, price and photo apply to
ALEX. THOM, MORRISBURG, ONT.

RIDGELING CASTRATION.

om—**DR. J. WILSON, V. S., WINGHAM, ONT.,** Specialist in the castration of ridgeling horses and colts. Terms and testimonials on application.

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EXHIBITION OFFERING: Two bull calves under 1 year. Also a Sylva and an Abbecker bull calf, with spring and fall heifer calves of Sylva breeding, bred from winners and ones that will make winners. Prices according to quality.
O. J. GILROY & SON, Brookville, on C.P.R. and G.T.R. Glen Buell, Ont.

Ridgedale Farm Holstein-Friesians for Sale.

2 yearling bulls; also bull and heifer calves; all of choice breeding. Prices always reasonable. Write, or come and see them. **R. W. WALKER, Utica P. O.** Shipping stations: Port Perry, G. T. R.; Myrtle, C.P.R. om

CHOICE JERSEYS.

Am offering 1 cow 5 years old, due to calve Feb. 6, very choice; bull calf 11 months old, registered, and cheap.
WM. N. HASKETT, Avon Manor, Markdale, Ont.

BRAMPTON JERSEY HERD

Offers: 3 St. Lambert bulls from 6 to 14 months old, out of high-testing cows; 1 yearling and 5 bull calves, sired by Brampton's Monarch (imp.). Four young bulls sired by him won 1st, 2nd and 3rd prizes under one year, and 1st prize under six months, also 1st, 2nd and 3rd at London and Ottawa, in 1901. The best is none too good. These young bulls have never been beaten. Get one to head your herd.
B. H. BULL & SON, BRAMPTON, ONT., G. T. R. and C. P. R. Stations.

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BREEDER OF Jersey Cattle and Yorkshire Pigs. Choice stock of each sex for sale.
PICKERING STATION, G. T. R. GREENWOOD P. O. CLAREMONT STATION, C. P. R.

FOR SALE: A SPLENDID LOT OF Jersey Cattle.

41 HEAD TO CHOOSE FROM.
Close descendants of my most noted prizewinners, and closely related to many animals I have sold that have won easily in the Northwest and all over Canada. My shipments last summer ranged from Manitoba to State of Delaware, U. S.

MRS. E. M. JONES,

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Get Your Tag On. No need to slit the ear of your animals to mark them. Mark all your stock with the Aluminaum "Stay There" Ear Marker. Contains your name, address, and consecutive numbers on each tag. No rusting or wearing off, inexpensive, and perfectly easy and simple to attach. We send free sample and prices upon application.
WILCOX & HARVEY MFG. CO. 194 Lake St., Chicago, Ill.

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A few choice Jersey bulls and bull calves for sale at very low prices. Choice breeding; good colors. Write for prices.
W. W. EVERITT, CHATHAM, ONT., "Dun Edia Park Farm," Box 555. om

LAWNRISE STOCK FARM.

JERSEYS FOR SALE: Yearling bull, and bull 8 mos. old. Several fine registered and grade cows coming in every week. A few choice young heifers. Five Berkshire sows in pig. Finest strains.
J. L. CLARK, Norval station: G. T. R. Norval P. O.

FOR SALE: JERSEY BULL

Eight months old; of richest blood; solid color. Dam purchased from Mrs. E. M. Jones, Brockville. Sire owned by Mrs. E. M. Jones. A beauty. Apply to
ARTHUR ROBB, CO. PERTH. o NEWRY P. O., ONT.

Wm. Willis, Newmarket, Ont.

Breeder of A. J. C. C. Jerseys and registered Cotswold sheep. Have yet two fine young bulls from Count, fit for service; also Yorkshire swine. om

To Rid Stock of Lice

AND ALL SKIN DISEASES. Also to Keep Poultry Healthy

WEST'S FLUID

Which is also a SURE CURE OF CONTAGIOUS ABORTION. STANDARD SHEEP DIP IS CHEAP AND GOOD. Pedigree forms free to customers. Manufacturers:

The West Chemical Co'y,

om TORONTO, ONT.

FOR SALE:

Three grandly-bred Ayrshire bull calves, 12 to 15 mos. old. Also young calves, by Napoleon of Auchebraun (imp.), whose dam has a record of 72 lbs. of milk per day. A few choice young Berkshire and Yorkshire sows could be served before shipping. Collie pups, from Perfection Queen. Address—
T. D. McCALLUM, Nether Lea, -om Danville, Que.

AYRSHIRES AND YORKSHIRES.

We always have on hand choice individuals, male or female, of above breeds. Write us.
om—**ALEX. HUME & CO., Menie, Ontario.**

Maple Cliff Dairy and Stock Farm.

BREEDERS OF AYRSHIRE CATTLE, IMPROVED BERKSHIRE AND TAMWORTH PIGS.
FOR SALE: 5 bull calves, a few heifers; young pigs, pairs not akin; 2 boars, 4 months old; young pigs. Farm adjoins Central Experimental Farm, Ottawa.
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HOMECROFT,

a farm for dairying and pure-bred stock: AYRSHIRES, IMPROVED CHESTER WHITES, BARRED PLYMOUTH o ROCKS, SOME FINE YOUNG BULLS.
J. F. PARSONS & Sons, Barnston, Quebec.

NEIDPATH AYRSHIRES.

Four (4) August, 1901, bull calves, and two-year-olds. Also a few March, 1902, bulls. **W. W. BALLANTYNE, Stratford, Ont.** Farm adjoins city, main line G.T.R. om

Ayrshire Bulls

from 1 1/2 years to 6 months, from special milking stock, sired by the sweepstakes bull, Cook of the North—9997—, also females all ages. Shropshire sheep. Berkshire pigs, either sex, and B.P. Rocks. For particulars write
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Free for five wrappers:

Lee's book, containing 386 pages, 3,000 recipes for home and farm. Fro. A. V. M. Day's English Tonic Powders (5 separate packages) for horses, cattle, dogs, sheep, and poultry. They make health and flesh. Mail us the front part of five wrappers and receive book FREE.
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Feed Day's Butter-fat Producer.
It makes more milk and butter-fat; gives the butter color; imparts a flavor to the butter that is not obtained by any other feed. Write us a post card for free sample. Warranted purely vegetable.

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DAVID A. McFARLANE,

Breeder of high-class KESLO, P. O. AYRSHIRES.

Young stock for sale from imported and home-bred foundation. Prices reasonable. om

WE OFFER THIS MONTH

FOLLOWING CHOICE BULL CALVES:

Ayrshires: out of SIKED BY Nora of Fin (imp.). Wee Earl (imp.). Gem of Castle Hill (imp.). Matchless 7560. Nellie of Barcheskie (imp.). Matchless. Lady Bute (imp.). Napoleon of Auchebraun (imp.).

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J. N. GREENSHIELDS, Prop. o Danville, Que.

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That can never happen where the cows wear our patented **Swiss Cow Bells** Made from finest quality of Swiss Bell Metal, they are light but strong and lasting. Musical in tone. They add to the appearance of herd besides making them tame and tractable. Strap with each. Sold direct in sets or singly to introduce. Made in 8 sizes. Circulars on Cow, Sheep and Turkey Bells Free. **Bevin Bros. Mfg. Co., East Hampton, Conn.**



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Five bulls ranging from 11 to 23 mos., from such noted cows as Jean Armour, Lady Ottawa, Sprightly and Primrose (imp.), and from the best sires procurable. Also heifers and cows all ages, and poultry. **WM. STEWART & SON, MENIE, ONT.**

FOR SALE: HIGH-CLASS IMPORTED AND HOME-BRED AYRSHIRES,

including cows, heifers and young bulls out of our prize and sweepstakes cows. Foundation selected with due regard to quality and productiveness. Come or write. **WM. WYLIE, - HOWICK, QUEBEC.**

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We breed for milk and quality, and employ only the best sires. Are now offering young Ayrshires of both sexes. **DONALD CUMMING & SONS, Lacaster, Ont.**

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Carrying the same breeding as our prize-winners, including such offspring as Floss and Tom Brown, the World's Fair winners. We breed for constitution, quality, and production. **DAVID BENNING & SON, Williamstown, Ont.**

AYRSHIRES FOR SALE.

4 yearling bulls and a number of spring calves of deep-milking strains. Prices reasonable. **F. W. TAYLOR, Wellman's Corners, Ont.**

Tredinnock Ayrshires.

Imported bulls at head of herd: Glencairn 3rd, Napoleon of Auchenbrain, and Lord Dudley. Forty imported females, selected from leading Scotch herds, and their produce from above-named bulls. Size combined with quality and style, well-formed udders, good-sized teats, and capacity for large milk production. Bull calves for sale; also a few young cows and heifers. For prices and particulars address **JAMES BODEN, Mgr., St. Anne de Bellevue, Quebec, G.T.R. & C.P.R., 20 miles west of Montreal.**

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Importers and breeders of choice, deep-milking **Ayrshires**

Males and females for sale. **ROBERT HUNTER & SONS, Maxville, Ont.**

5 AYRSHIRE

bull calves for sale, from 6 to 12 months old. Sired by Klondyke of St. Ann's 8897. Their dams are heavy milkers, with good udders and teats. Inspection invited. **W. F. STEPHEN, Trout River, Quebec. (Carr's Crossing, G. T. Ry.)**

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Won 12 gold medals for farmers' use on agricultural machines and general purposes. Hardware and general stores sell it to their best trade. Don't take anything else. Get "Peerless."

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Cows and heifers, all bred from prizewinning stock at the leading shows. **Robert Wilson, Mansurac, Bridge of Weir, Renfrewshire, Scotland.**

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One of the oldest registered flocks of pure-bred Oxford Downs. Annual sale of rams. Oxford ram fair. Rams and ewes for sale at home. Inspection invited.

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Booth and Bates Shorthorns, topped with Crutwick-shank bulls. Young cows, bulls and heifers always on hand for sale. Eligible for the American herdbook. Royal and Highland prizewinners included for the last two years. Close on \$400 won in prizes last year and this. **WM. BELL, Ratcheugh Farm, Alnwick, Northumberland, Eng.**

Shorthorn Cattle and Lincoln Longwool Sheep.

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Has always for inspection and sale the largest flock of pure Lincoln sheep and Shorthorn herd in the country, and many prizewinners. The sheep are famous for their great size, fine, lustrous wool, and 150 years' good breeding, and at the home sales have made the highest prices on record. The Shorthorns comprise the best Bates, Booth, and Scotch blood, including the best prize strains of Duthie, Marr, Willis, and Harrison. During the last year \$6 prizes have been taken by the Riby Shorthorns and Lincoln sheep at the leading shows in England. **Cables: Dudding, Keelby, England.**

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Breeder of Lincoln Long-wooled sheep. Flock No. 46. At the Palermo Show, 1900, 25 rams bred by J. E. Casswell averaged £54 each; 14 of the best averaged £63 each, this being the highest sale of the season in the Argentine. Ram and ewe hoggs and shearings for sale; also Shire horses, Shorthorns, and fowls. Telegrams: "Casswell, Folkingham, Eng." Station: Billingsboro, G. N. R.

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BRITISH STOCK selected and shipped to all parts of the world. Write for prices to **ALFRED MANSELL & CO., Shrewsbury, England**, or to our American representative, Robert Miller, Stouffville, Ont., Canada.

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Secretary of the Kent or Romney Marsh Sheep Breeders' Association, and late Secretary of the Southdown Sheep Society.

Pedigree Live Stock Agent, Exporter and Shipper. All kinds of registered stock personally selected and exported on commission; quotations given, and all enquiries answered. Address: **FITZALAN HOUSE, ARUNDEL ST., STRAND, LONDON W. W.**

Cables—Sheepcote, London.

Lincoln Longwool Sheep Breeders' Association. Lincoln Ram Sales, 1902.

The 14th and 15th sales of Lincoln Longwool rams by members of the Association will be held in Lincoln as follows:

8th August, 400 rams. 5th Sept., 500 rams.

The sheep will be on view during the afternoon of the Thursday preceding each day of sale. **St. Benedict's Square. STEPHEN UPTON, Lincoln, Dec., 1901. Secretary.**

WALTON HERD OF PEDIGREE PIGS.

The property of Sir Gilbert Greenall, Bart., Walton Hall, Warrington, England.

This herd is unrivalled for its true type, large size and strong constitutional vigor. It is the premier herd in England at the present day. Its show-yard career is unique, the champion prize for the best Large White pig at the R. A. S. B. having been won by pigs bred in the herd in 1896, '97, '99 and 1901, besides leading prizes too numerous to mention at all the principal agricultural shows in England. A choice selection of boars and sows for sale. Inspection invited. All purchases carefully shipped. For particulars, apply to the Manager, **MR. J. HALLAS, Higher Walton, Warrington, England. Railway stations: -Warrington (Bank Quay) per L. & N. W. Ry.; (Central) per Midland, G. N. or G. C. Ry. Telegrams, "HALLAS Higher-Walton."**

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"RESERVE" FOR CHAMPION IN THE SHORT- WOOL CLASSES, SMITHFIELD, LONDON, 1901.

Splendid Mutton, Good Wool, Great Weight.

This highly valuable ENGLISH BREED OF SHEEP is unrivalled in its wonderfully early maturity and hardness of constitution, adapted to all climates, whilst in the quality of mutton and large proportion of lean meat it is unsurpassed; and for crossing purposes with any other breed, unequalled. Full information of **JAMES E. RAWLENCE, SECRETARY HAMPSHIRE DOWN SHEEP BREEDERS' ASSOCIATION, SALISBURY, ENGLAND.**

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Contains more value for the money than any other Dip on the market. We will send a tin prepaid to any part of Ontario for ONE DOLLAR. Half gallon, imperial measure, in each tin. It is the cheapest disinfectant for outbuildings, drains, etc.

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Imported ewes and lambs. Can supply show flocks. **J. H. PATRICK, ILBERTON, ONT., CAN.**

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Offers imp. and home-bred Cotswolds of both sexes and all ages, from the champion flock of Canada for the last six years. **JOHN PARK & SONS, Burgessville P.O. and Stn.**

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JOSEPH FERGUSON, UXBRIDGE, ONT., BREEDER OF Pure-bred Cotswolds—choice quality

om UXBRIDGE P. O. AND STATION.

PLEASE MENTION FARMER'S ADVOCATE

IMPORTED COTSWOLDS

We are now offering some choice shearings of both sexes; also this season's crop of lambs, sired by Imp. Swanwick.

BROOKS & LANGMAID, COURTICE P. O. SIX MILES FROM OSHTAWA STATION, G. T. R.

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Cotswold Ewes and Ewe Lambs of good quality and breeding. Also a registered station, 1 year old, one filly foal. Good ones. A Duchess of Gloster bull, 15 months old, for sale. Write for price and particulars.

OXFORD DOWNS

Largest breeder of Oxford Downs in Canada. Have still some fine ewes of different ages for sale. Bred to imported rams. Also 50 superior ewe lambs, and 100 ram lambs. All registered. Prices reasonable. Barred Rock eggs for setting, \$1 per dozen. **HENRY ARKELL, ARKELL, ONT.**

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Present offering: A choice lot of ram lambs and ewe lambs. Also 50 extra nice yearling ewes. **PETER ARKELL & SONS, Teeswater P. O. and Station.**

OXFORD DOWNS

Imported and home-bred. This flock has won more first prizes for Canadian-bred pens than any flock in Canada. **SMITH EVANS, Gourock (near Guelph), Ont.**

BROAD LEA OXFORDS.

Can sell a few choice ewes of different ages, bred to our imported rams, May King 1st and Earl of Fairfield 2nd; also 75 good ewe and ram lambs, and an imported two-shear ram. Come and see our flock, or write us for prices, etc. **HENRY ARKELL & SON, TEESWATER, ONT. MILDWAY, G. T. R.; TEESWATER, C. P. R.**

Linden Oxford and Shorthorns

Flock composed of selections from the best English flocks and their progeny. None but the best imp. rams used. Stock for sale. **R. J. HINE, Dutton, Ont.**

HIGH-CLASS SHROPSHIRE.

A flock of 75, of good type. Two-shear rams, shearing rams, ram lambs, ewe lambs, fine lustrous fellows. Flock headed by a fine imported ram. Write for prices. **Abram Rudell, Hespeler P.O., Ont. om C. P. R. and G. T. R.**

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American Shropshire Registry Association, the largest live stock organization in the world. Hon. John Dryden, President, Toronto, Canada. Address correspondence to **MORTIMER LEVERING, Secretary, Lafayette, Indiana.**

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THE largest flock in America. The most celebrated prizewinners at the Columbian Exhibition and Canadian exhibitions. Contains more Royal winners than any other. Awarded 5 out of 8 first prizes at Toronto, London and Ottawa in 1900. Flock of 300. Stock for sale always on hand. **John A. McGillivray, Uxbridge, Ontario.**

Shropshires...

At present I offer for sale: Shearing rams, shearing ewes, ram and ewe lambs. Also a few aged ewes. Prices reasonable. **GEORGE HINDMARSH, AILSA CRAIG, ONT.**

STOP! LOOK!!! LISTEN!!!

International Winnings: Of the home-bred Fairview Shropshires in breeding classes. Of the \$551 offered they won \$204. Of \$301 by Shrop. Ass'n to American-bred, won \$156. They won 20 per cent. more money than any other flock. Had 15 of 32 first premium winners in both classes. All winners bred at Fairview except one third-prize ewe. All our first winners sired by "Newton Lord" but one. And sold out all surplus at the International, except three choice imported rams. Even placed orders for lambs not then dropped. **JOHN CAMPBELL, Woodville, Ont., Can.**

W. S. CARPENTER, "MODEL FARM," SIMCOE, ONT., IMPORTER AND BREEDER OF Shropshire Sheep.

Ram and ewe lambs for sale. Well covered. Station One-half Mile from Farm, Wabash and G. T. R.

50 REG. SHROPS. 50 FOR SALE!

Shearing and two-shear rams; also stock ram, bred by John Miller & Sons, and this season's crop of lambs ready for the fall trade. Foundation stock bred by Mansell, England. Prices moderate. A card will bring them. **ROWAT BROS., Pheipston station, G. T. R., 5 Hillisdale, Ont. miles east, Simcoe County.**

"VIGILANT" NEST
SLIDING—ADJUSTABLE
 (Patented Can. & U.S.)
 The only nest in the world which positively prevents hens from eating their eggs.
 Simple—Effective—Durable
 No springs—Eggs cannot break. The inclined nest gathers them safely in lower section. Prevents fleas, or parasites, etc. Everlasting, never failing, comfortable. Thousands now in use. Ask your dealer for it or write to **L. P. Morin, Inventor, Mfr., 12 Antoine St., St. Hyacinthe, Que.**
 Price 45c. each. AGENTS WANTED.



STEWART'S SHEEP SHEARING MACHINE
 Highest and Only Award at Pan-American Exposition.
 1902 Model, price including grinder, only **\$1850**
 Will be fitted with the wonderful Stewart Shear owner of 10 Sheep or more can afford to shear by hand even though the work be done for nothing. Don't butcher your sheep. Shear with this machine, and get **ONE POUND WOOL EXTRA PER HEAD.**
 Will more than cover the whole cost of shearing. Send today for valuable book on shearing. It is free and will save you money.
CHICAGO FLEXIBLE SHAFI CO., 150 La Salle Ave., Chicago, Ill.



How Some of Our Readers Can Make Money.
 Having read of the success of some of your readers selling Dish-washers, I have tried the work with wonderful success. I have not made less than \$9.00 any day for the last six months. The Mound City Dish-washer gives good satisfaction and every family wants one. A lady can wash and dry the dishes without removing her gloves, and can do the work in two minutes. I got my sample machine from the Mound City Dish-Washer Co., of St. Louis, Mo. I used it to take orders, and sold 12 Dish-washers the first day. The Mound City Dish-Washer Co. will start you. Write them for particulars. Ladies can do as well as men. **JOHN F. M., Advt. om**

Imported Poland-China Hogs. We are offering something extra choice, of both sexes, any age (pairs not akin), from imported stock, and of the true type. Easy feeders, rapid growers. **ROBT. L. SMYTH & SONS, om Fargo P. O. and Station, M. C. R.**

English Berkshires.
 A few choice young sows in farrow. One good three-year old stock boar. Orders booked for spring pigs. Barred Rocks. Eggs for hatching. **JOHN RACEY, JR. LENNOXVILLE, - - QUEBEC.**

LARGE ENGLISH FOR SALE.
 YOUNG boars and sows carrying the blood of Baron Lee 4th, Bright Star Teasdale and Snell females, with Allendale Boy 6876 and Royal Lad 3rd 4307 heading the herd. **S. DYMENT, BARRIE, ONT.**

WILLOW LODGE BERKSHIRES FOR SALE
 Two boars 11 mos. old; 4 boars 6 mos. old; 3 boars 5 mos. old; 4 boars 3 mos. old; also a number of sows from 3 to 5 mos. old. Now is the time to order spring pigs, which are arriving daily, sired by Longfellow 10th of H. F. No. 8633, Willow Lodge Prince (9784) and Milton Lad (9660). Pairs supplied not akin. **WM. WILSON, SNELGROVE, ONTARIO.**

SNELGROVE BERKSHIRES
 We have for sale boars and sows 2 to 4 months old, and sows large enough to be bred. Now is the time to send orders for young pigs to be farrowed in March and April. Sired by the prizewinning boars: Colonel Brant—5950—, Crown Prince—5888—, and Norval Hero—5952—. Prices reasonable. **SNELL & LYONS, SNELGROVE, ONT.**



Imported Chester Swine.
 Our present offering is both sexes, not akin, as good as the country produces. Also eggs from B. B. Rocks, B. B. and C. I. Games, S. G. Dorkings, G. Seabright Bants, Mammoth Pekin ducks—all prizewinners—\$1.50 per 13. Six extra B. B. Game cockerels for sale. **GEO. BENNETT, CHARING CROSS P. O. AND STATION.**

YORKSHIRES.
 TWO good 7-months-old, pure-bred Yorkshire sows, bred to a pure-bred Chester hog. For sale reasonable. **B. H. HARDING, Thorndale, Ontario.**

GOSSIP.
 Mr. W. J. Walker, Eady, Ont., has recently purchased from Mr. Arthur Johnston, Greenwood, to head his Shorthorn herd, a young bull sired by Darnley, he by Imp. Indian Chief, and out of Duchess of Gloster 37th; also from Mr. S. Johnston, Ashburn, a cow by Royal Duke, he by Imp. Sussex, and the cow is in calf to Caesar, which Mr. Walker considers a valuable addition to his herd.

Mr. Alex. McGregor, of Epsom, Ont., recently purchased from Mr. Dundas, of the Lowlands, Springville, Ont., the grand big Clydesdale stallion, Airdrie Lad, Vol. 24, B. C. S. B., which was imported a short time ago, with a number of other high-class Clydes, from the well-known stud of Mr. W. S. Park, Hatton, Bishopton, Scotland. This is said to be a typical Clydesdale, having size and bone, substance and quality, walks like a true draft horse and trots excellently. In point of breeding he is all that could be desired, being sired by the very successful show and breeding horse, Prince of Crairend, by the world-famed Prince of Wales, while his dam is by the noted premium horse, The Hawk.

Mr. F. C. Stevens, proprietor of the Maplewood Hackney Stud, Attica, N. Y., in order to encourage the improvement in quality of the carriage horses raised in his district, offers the services of his young registered stallions to a limited number of mares at a service fee of \$10 each for this season, fees to be paid at time of service and free return privileges granted until October 1st, 1902. The proprietor of the stud reserves the privilege of selecting the stallion in each case and of rejecting any mares unsound or of rejecting objectionable or unsuitable; mares to be sent by actual owners. Stallion owners and breeders may see in this scheme a suggestion they could adopt for the improvement of stock in their district, and might find it profitable to handle some of the produce of such matings in supplying the trade in carriage or draft horses. It is desirable that as many horses as possible of a given type be produced in a district, as dealers are attracted to points where they can secure the sort required in considerable numbers.

OFFICIAL RECORDS OF HOLSTEIN-FRIESIAN COWS.

From February 20 to March 15, 1902. During this period one report for thirty days and seventy-one for seven days each have been received and accepted.

Thirty full-age cows; average age, 7 years 6 months 18 days; days after calving, 24; milk, 429.4 lbs.; butter-fat, 15.23 lbs.; equivalent butter 80 per cent. fat 19 lbs. 0.6 ozs.; or 17 lbs. 12.3 ozs. 85.7 per cent. fat; quality of milk, 3.55 per cent. fat.

Eleven four-year-olds; average age, 4 years 8 months 4 days; days after calving, 16; milk, 408.2 lbs.; butter-fat, 14.253 lbs.; equivalent butter 80 per cent. fat 17 lbs. 13.1 ozs.; or 16 lbs. 10.1 ozs. 85.7 per cent. fat; quality of milk, 3.49 per cent. fat.

Fifteen three-year-olds; average age, 3 years 7 months 9 days; days after calving, 23; milk, 355.9 lbs.; butter-fat, 12.774 lbs.; equivalent butter 80 per cent. fat 15 lbs. 15.5 ozs.; or 14 lbs. 14.4 ozs. 85.7 per cent. fat; quality of milk, 3.59 per cent. fat.

Fifteen two-year-olds; average age, 2 years 3 months 21 days; days after calving, 41; milk, 273.4 lbs.; butter-fat, 9.492 lbs.; equivalent butter 80 per cent. fat 11 lbs. 13.8 ozs.; or 11 lbs. 1.2 ozs. 85.7 per cent. fat; quality of milk, 3.47 per cent. fat.

ABOUT CLIPPING HORSES.
 The Horse Review gives the following advantages to be derived from clipping horses:

First—The natural process of shedding the hair is a drain on the vitality of the animal. The appetite is diminished, and with a work or pleasure horse exertion is irksome during the period. Clipping, or artificial removal of the hair, accomplishes in a very short space of time what nature requires much more time to do. In other words, nature is anticipated in her work and the animal's system is saved a call upon it.

Second—A clipped horse is less liable to take cold than a long-coated horse, because the evaporation of perspiration is more rapid. A "hot" horse will cool out quicker with a short coat. Every groom is aware of this fact.


Third—A clipped horse requires less fuel (food) to maintain bodily heat than the long-coated horse; therefore, clipping as a matter of economy should be generally practiced.

Fourth—A clipped horse looks cleaner, acts more sprightly and keeps in better health. Horses intended for the sale- or show-ring should be clipped at least two weeks before the event. There will be a marked improvement in weight and appearance, with manifest advantage to the owner's pocketbook.

These points about cover the ground! We add that clipping machines, like those manufactured by the FLEXIBLE SHAFI CO., of Chicago, are so cheap that all horse owners can afford to have one.

YORKSHIRES FOR SALE.
 Sows safe in pig; large, smooth type; due to farrow first part of May; will be about 11 mos. old when they farrow. I have a choice sow due to farrow last of March; will be one year old at that time. Also have a few choice boars fit for service, and sows 4 months old. Prices reasonable. Write. **Jas. A. Russell, Precious Corners, Ont.**

FROM BULL TO HEN
 Strength and security are combined in ELLWOOD FENCES. Made of best steel wire, heavily galvanized. Small mesh at bottom, larger mesh at top, make them secure for large and small stock. Farms, ranches, orchards, nurseries are safest fenced with **ELLWOOD Steel FENCES**
 The standard of strength, durability and economy in woven wire fences. Heavy steel wire, heavily galvanized. Six heights; styles for all purposes. Sold everywhere. If your dealer hasn't them, write to **Canadian Steel & Wire Co., Ltd., Hamilton, Ont.**



FACTORY PRICES.
 OUR prices on all kinds of carriages and harness are actual factory prices. The dealers and jobbers have been eliminated in our system of selling direct from factory to customer. We are saving money for thousands of carriage buyers all over the country—we can save money for you.
 Write for our catalogue, descriptive of buggies, phaetons, surreys, etc. It gives full particulars of our system, and shows the carriages. It also gives wonderfully low prices on harness, etc. The largest assortment to select from—and the broadest guarantee goes with each purchase. Catalogue **Free.**
International Carriage Co., BRIGHTON, ONT.



MICA ROOFING!
 USE Mica Roofing on all your buildings. IT IS CHEAPER THAN SHINGLES. WATERPROOF. FIREPROOF. RAPIDLY TAKING THE PLACE OF SHINGLES.
 Is put up in rolls of one square each, 40 feet long by 32 inches wide, and costs only \$2.25, including nails, thus affording a light, durable, and inexpensive roofing, suitable for buildings of every description—especially flat roofs—and can be laid by any person of ordinary intelligence.
HAMILTON MICA ROOFING CO., 101 REBECCA ST., HAMILTON, ONT.



SUMMERHILL HERD OF Large English Yorkshires.
 HEADQUARTERS FOR THE IDEAL BACON HOG.
 Our winnings at the large shows, for 1901, are as follows: At Toronto every possible first prize and five seconds, two silver medals, and first for pen of pure-bred bacon hogs, also sweepstakes on bacon hogs over all breeds; at London every possible first but two; while at the Pan-American, where our herd was divided, half going to Toronto, we won six out of ten possible firsts, also sweepstakes on boar any age. At the Pan-American (Buffalo), Toronto and London there were thirty-six first premiums and medals given: all the medals and every first prize but six won by the Summer Hill Yorkshires. When in need of the best write **D. C. FLATT & SON, MILLGROVE, ONT.** Telephone: Millgrove, Ont.



BOARS FOR SALE.
 We have a few choice Yorkshire boars to sell at \$15 each. Sows and younger pigs always on hand. Herd headed by the second prize boar at Toronto, 1901. We still have a few extra fine Shropshire and Suffolk Down ewes at \$25 per pair. We also have a number of Aberdeen-Angus bulls and heifers to part with. **W. R. BOWMAN, Mt. Forest, Ont.**

PINE GROVE FARM HERD OF Large Yorkshire and Essex Swine.
 The oldest established herd in America. We bred Hasket 3rd—1937—, sire of Oak Lodge Conqueror—2475—, and also sire of Look Me Over, the sire of Summerhill Victor, the champion boar at the Pan-American and the late Chicago Exposition, and sold there for \$700. Personal inspection and correspondence solicited. Nine imported and twenty home-bred sows breeding. **JOSEPH FEATHERSTON & SON, 0 STREETSVILLE P. O., ONT. Streetsville stn., C.P.R. Clarkson stn., G.T.R.**

Improved Yorkshires FOR SALE.
 of the most popular families. All ages and both sexes now ready for immediate shipment. Write for what you want. Prices reasonable—consistent with quality. **E. DOOL, Hartington, Ont.**



Imported and Canadian-bred YORKSHIRES.
 A number of good young sows in pig, boars ready for service and young pigs from 2 to 3 months old, direct from imported stock. Pairs and trios supplied not akin. **H. J. DAVIS, Box 290, WOODSTOCK, ONT. Importer and breeder of Shorthorns and Yorkshires.**

FOR SALE: Yorkshires and Holsteins
 Best type and quality. Young stock constantly on hand. Prices right. **R. HONEY, Brickley F. O., instead of Warkworth.**

YORKSHIRES
 Headed by Oak Lodge Prince 5071. Litters 15 weeks, either sex; 2 sows to farrow. **WM. TEASDALE, Dollar, Ont. Northern branch G.T.R., 15 miles from Toronto. om**

YORKSHIRES AND POULTRY.
 Young pigs, both sexes, extra choice. Eggs for hatching. No. 1 pens \$1.50, No. 2 pens \$1. from B. P. Rocks, W. Wyandottes, White and Brown Leghorns. A few Buff Orpington eggs at \$2.50 per setting. Choice pedigree collie pups. M. B. turkey and Pekin duck eggs. **A. B. ARMSTRONG, CODRINGTON, ONT.**

THE MOST NUTRITIOUS.
EPPS'S COCOA
 Prepared from the finest selected Cocoa, and distinguished everywhere for Delicacy of flavour, Superior quality, and highly Nutritive properties. Sold in quarter-pound tins, labelled **JAMES EPPS & Co., Ltd., Homeopathic Chemists, London, England.**

EPPS'S COCOA
 BREAKFAST-SUPPER.

YORKSHIRES FOR SALE.

Boars fit for service, sows in farrow and ready to breed, and young stock on hand. Prices reasonable.

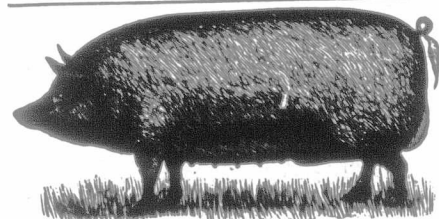
WM. HOWE,
 BRUCE CO. NORTH BRUCE, ONT.

Tamworths and Berkshires.

A choice litter of young Tamworths, farrowed March 1st, \$6 each, registered. Berkshire sows four months old. Mammoth Bronze turkey eggs in season, \$3 per setting, large stock; order now. Safe arrival guaranteed.

D. J. GIBSON,
 BOX 38, BOWMANVILLE, ONT.
 HAZEL DELL STOCK FARM.

NEWCASTLE HERD OF TAMWORTHS
 We are now offering several choice boars and sows, 3 and 4 mos. old, and half a dozen choice 2-mos.-olds, all from Toronto Industrial sweepstakes herd. Write us for prices before buying elsewhere. **COLWILL BROS., NEWCASTLE, ONT.**



One hundred Tamworth and Improved Chester White Spring Pigs of a true bacon type, our herd having won the best prizes offered at the leading exhibitions throughout Ontario and Quebec for the past ten years. Stock for exhibition purposes a specialty. We pay express charges between stations, and guarantee safe arrival of all stock shipped. Pairs furnished not akin. Write for prices.

N. GEORGE & SONS, Crampton P.O., Ont.

IMP. TAMWORTHS. A few sows 6 months old, out of Imp. English Lady and O. A. C., sired by Imp. Starlight, also the first prize boar at Pan-American, for sale, and young stock from 5 to 7 weeks old.
PETER HORD, Parkhill P. O. and Station.

A MACHINE
 to weave your own fence of Colled Hard Steel Spring Wire. 52 inches high, at 25 Cts. per Rod. \$25 buys wire for 100 rod fence. Agents Wanted. Catalogue Free. **CAARTEK Wire Fence Mach. Co. Box 4 Ridgeway, Ont.**

FIRE Safety
 is best secured by using "Safe Lock" Shingles on all your buildings. Prevents many fires and makes others easier controlled. The Safe Lock Metal Shingles are lightning proof too and keep out the snow and rain. Small Shingle showing construction mailed free. The Metal Shingle & Siding Co., Limited **PRESTON, ONT.**

Agents Wanted
 for the New Pictorial Stock Doctor and Live Stock Cyclopaedia, revised to 1901 with the assistance of the Professors of the Ontario Agricultural College, Guelph. The finest illustrated, cheapest and best book of its kind ever published. Large wages to agents. A full-page announcement of this book appeared in the ADVOCATE of the issue of June 1st. Particulars mailed free. Address **WORLD PUBLISHING CO., Guelph, Ont.**

Eggs
 FOR SALE.—White Rocks of the finest strain in country; \$1 and \$1.50 per setting. **J. McEWEN, 266 St. James St., London, O.**

I Will Cure You of Rheumatism
 No pay until you know it.

After 2,000 experiments, I have learned how to cure rheumatism. Not to turn bony joints into flesh again; that is impossible. But I can cure the disease always, at any stage, and forever.

I ask for no money. Simply write me a postal and I will send you an order on your nearest druggist for six bottles of Dr. Shoop's Rheumatic Cure, for every druggist keeps it. Use it for a month, and if it does what I claim, pay your druggist \$5.50 for it. If it doesn't, I will pay him myself.

I have no samples. Any medicine that can affect Rheumatism with but a few doses must be drugged to the verge of danger. I use no such drugs. It is folly to take them. You must get the disease out of the blood.

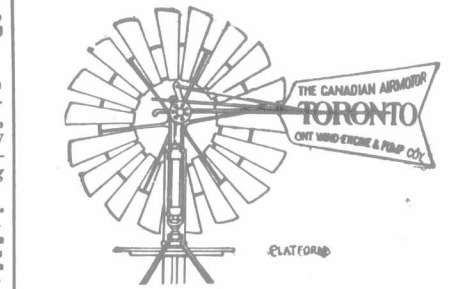
My remedy does that, even in the most difficult, obstinate cases. No matter how impossible this seems to you, I know it and I take the risk. I have cured tens of thousands of cases in this way, and my records show that 39 out of 40 who get those six bottles pay, and pay gladly. I have learned that people in general are honest with a physician who cures them. That is all I ask. If I fail I don't expect a penny from you.

Simply write me a postal card or letter. Let me send you an order for the medicine. Take it for a month, for it won't harm you anyway. If it cures, pay \$5.50. I leave that entirely to you. I will mail you a book that tells how I do it.

Simply state which book you want and name of your dealer, and address **DR. SHOOP, Box 68, Racine, Wis.**

Book No. 1, on Dyspepsia.
 Book No. 2, on the Heart.
 Book No. 3, on the Kidneys.
 Book No. 4, for Women.
 Book No. 5, for Men (sealed).
 Book No. 6, on Rheumatism.

WINDMILLS



We do not make a windmill for ornament. The

CANADIAN AIRMOTOR

robs the wind of its power, and gives it to you at your

BARN OR PUMP.
 Does more hard work than any other farm implement.

ONT. WIND ENGINE & PUMP CO. LIMITED, TORONTO, ONT.

A FLOOD OF LIGHT

equal to 100 candle lights and comparable only to the light of noon day sun, yet soft and restful to sew or read by, such is the light of the

AUER GAS LAMP

It makes and burns its own gas—is cheaper than oil and as easy to manage—though eight times as bright. Gives out very little heat. Our free catalogue gives full particulars. Write for it.

Auer Light Co., 1682 Notre Dame, Montreal.

PLEASE MENTION FARMER'S ADVOCATE.

BOOK REVIEW.
 Any book reviewed in this department may be ordered through this office, at the price stated.

AMERICAN SHORTHORN HERD-BOOK.

Volumes 46 (parts 1 and 2), 47 (parts 1 and 2), 48 (parts 1 and 2) and 49 (bulls) of the American Shorthorn Herdbook have recently been received at this office by courtesy of Mr. John W. Groves, Secretary, Springfield, Ill. The great increase in the demand for Shorthorns in recent years has and the consequent increase in registrations must require a vigilant and steady-working office staff to keep up with the work of recording pedigrees coming from so wide a field, but the staff at the Springfield office appear to be equal to the emergency, and are turning out the volumes perhaps as promptly as could reasonably be expected, and the work appears to be well done.

BACTERIOLOGY ON THE FARM.

That agriculture is a complex science is borne in upon us every day by evidence that is fast accumulating in the way of scientific books treating on the subject. One of the latest to reach us is "Agricultural Bacteriology," written by Professor H. W. Conn, of Wesleyan University, Middleton, Connecticut. This work is really a study of the relation of bacteria to agriculture, with especial reference to the bacteria (germs) in the soil, in water, in the dairy, in miscellaneous farm products, and in plants and domestic animals. Many of our readers are doubtless aware of the connection existing between diseases and germ life, but it is not as well known to them that the science of dairying is also dependent in a large measure on the vegetable form of life termed bacteria. Even clover, manure, and other essentials to good farming are assisted in their work by the ubiquitous germ, of which there are undoubtedly two kinds, useful and harmful. Any person desiring to get further knowledge on the subject and to be up-to-date should read this book, which is published by P. Blakiston & Son, of Philadelphia. A splendidly-printed volume of over 400 pages, it is by all odds the best popular treatise on this important subject we have seen, and will certainly be appreciated. The author's enquiries have been brought down to date. In the chapter on tuberculosis, he admits that the dangers to man from the meat or milk of animals have been overdrawn. He shows that the cultures of tuberculosis from cattle behave very differently from those from man, and mentions Prof. Koch's announcement that the bovine and human bacillus are different, and that the disease consequently cannot pass from cattle to man. Agricultural students everywhere will welcome this informing volume, the price of which is \$2.50. It may be ordered through this office.

THE SOUTH AFRICAN WAR.

On the above subject there is no better authority than Dr. A. Conan Doyle, the well-known author and traveller. From George N. Morang & Co., Toronto, we have received a copy of his celebrated 140-page pamphlet entitled, "The War in South Africa: Its Cause and Conduct," which is at once a defence and an explanation—a defence of British policy, British soldiers and the British treatment of the Boers; an explanation of the charges which have been circulated in foreign countries by emissaries of the late Boer Governments. Dr. Doyle has prepared this pamphlet as a gift to the people of the Empire, and is receiving no profit from its publication. It has, we may add, been translated into all the European languages, and is being widely circulated in every civilized country. So far as Morang & Co. is concerned, the work has been issued in Canada, at the author's request, in the interest of a better public knowledge of this great question. It is a clear and concise presentation of the facts of the case that British subjects in Canada and all 'round the world will appreciate. It is sold at the nominal price of 10 cents, and can, we presume, be obtained from any bookseller.

Wagon World Awheel.

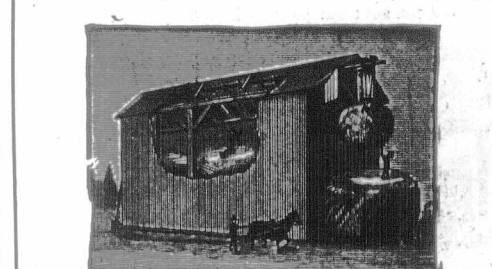
Half a million of these steel wheels have been sent out on our own wagons and to fit other wagons. It is the wheel that determines the life of any wagon, and this is the longest lived wheel made. Do you want a low down Handy Wagon to use about the place? We will fit out your old wagon with Electric Wheels of any size and any shape tire, straight or staggered spokes. No cracked hubs, no loose spokes, no rotten felloes, no resetting. Write for the big new catalogue. It is free. **Electric Wheel Co., Box 253, Quincy, Ills.**

What an Editor Says of . . . SHREDDED WHEAT

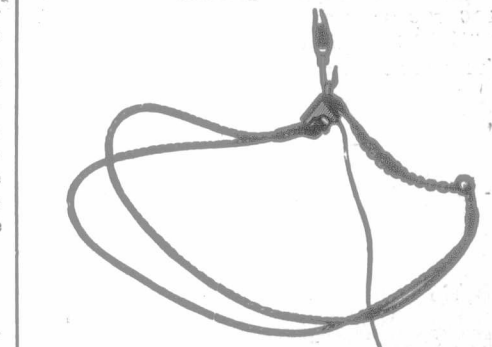
"We have used Shredded Wheat in our family since it first appeared on the market, and find it by far the most satisfactory as a breakfast cereal of anything we ever tried. More recently we have been using it as the foundation of many other meals, following the admirable recipes as given in the 'Vital Question,' and the result is not only appetizing, but perceptibly advantageous to the general health of the family. We cannot find language too emphatic to express our high opinion of Shredded Wheat Biscuit as a convenient, economical and satisfying food." **W. H. Brock, editor "Healthy Home," Athol, Mass.**

SHREDDED WHOLE WHEAT BISCUIT
 FOR SALE BY ALL GROCERS.
 Send for Recipe Book—FREE.
 Mention this paper.

BUCHANAN'S (Malleable Improved) PITCHING MACHINE
 For unloading hay and all kinds of loose grain.



Unloads on either side of barn floor without changing car. No climbing necessary. Malleable Iron Cars. Steel Forks. Knot Passing Pulleys. Will work on stacks as well as in barns. Satisfaction guaranteed.



The Common-Sense Sheaf-Lifter
 Works in connection with Pitching Machine, and is the most complete apparatus ever offered to the public for pitching sheaves. Sheaves left in the mow just as they come from the load.

RESPONSIBLE AGENTS WANTED
 Circulars, Prices and Terms on application to **M. T. BUCHANAN & CO., Ingersoll, Can.**

FARMERS, ATTENTION!
 Concrete walls, floors, cisterns, cheese-factory floors, built by an expert (12 years' experience). **London Cement Construction Company, 419 Ridout St., London, Ont.**

Snelgrove Poultry Yard. Barred Rocks exclusively. Canada's business hens. Eggs for hatching, \$1 per setting, 3 settings \$2. **W. J. Campbell, Snelgrove P.O., Ont.**

All prizewinning strains—Bronze turkeys sired by imp. tom that won 2nd at Pan-American. Narragansett turkeys and Pekin ducks. Also Oxford sheep, Tamworth swine and Collie dogs. **om A. ELLIOT, POND MILLS, ONTARIO.**

EGGS FOR HATCHING
 Barred Rocks (exclusively). From two pens headed by two imported cockerels bred from a \$75 trio of A. C. Hawkins' Royal Blue strain; \$1.25 and \$1.50 per setting of 13. **A. E. SHEPPINGTON, Box 100, Walkerton, O.**

EGGS FOR HATCHING

Barred Rocks (exclusively) from imported stock. \$2 for 13, or two settings for \$3.

J. E. FORDON, Maplehurst Farm, Beachville, Ontario.

White Wyandotte Eggs.

Large dark-egg strain, \$1.25 per setting.

A. M. MINTHORN, QUEENSTON, ONTARIO.

EGGS: from heavy-laying, prizewinning strains of S. C. Brown Leghorns, S. C. Black Minorcas, and Barred Plymouth Rocks. See "Gossip" column, ADVOCATE, April 1st. Write for circular before purchasing elsewhere.

JOHN B. PETTIT, Fruitland, Ontario.

EGGS FOR HATCHING. Turkey eggs \$4 others \$1 per setting. Mammoth Bronze turkeys, Barred Rocks and W. Rocks, and Red Caps. Chester White swine. Good bacon type. Write for prices.

W. E. WRIGHT, GLANWORTH, ONT.

Eggs for Hatching

From a pen of choice Barred Rock hens, selected as persistent layers of large eggs, and mated with two large, strong, vigorous cockerels. Price, \$1 per setting, or three settings for \$2.

W. O. SHEARER, BRIGHT, ONTARIO.

EGGS FOR SALE.

B. P. Rock, W. Wyandotte, Buff Pekin ducks: \$1.25 per setting.

O. W. BEAVER, Prescott, Ontario.

Better Hatches with Hens

by new method of experienced poulterer; beats incubators; simplifies work with sitters; saves your temper. Directions, 20 cents. Using my method you make many times this much on each setting.

VALLEY POULTRY FARM, Helena, Montana.

GRAMMING MACHINES, FATTENING COOPS, Incubators and Brooders POULTRY SUPPLIES.
A. J. MORGAN, MFR., LONDON.
Catalogue free.

The Daniels Incubator

We can save our patrons 20 to 30 per cent. on

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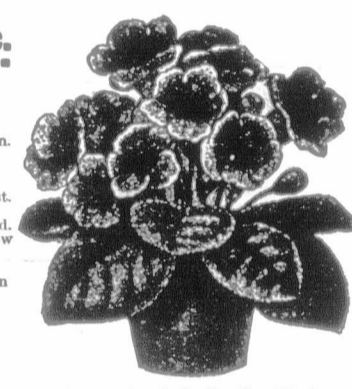
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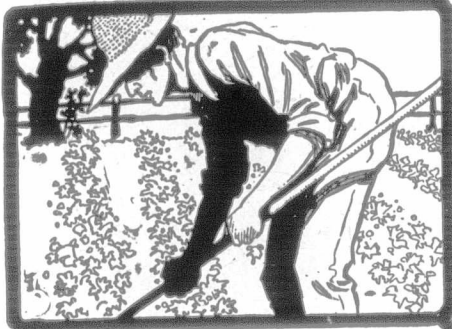
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Rain and sweat have so effect on harness treated with Eureka Harness Oil. It resists the damp, keeps the leather soft and pliable. Stitches do not break. No rough surface to chafe and cut. The harness not only keeps looking like new, but wears twice as long by the use of Eureka Harness Oil.

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Buy your Seeds from dealers who sell **Steele-Briggs Seeds** and insist upon having them. If you cannot get them from a local merchant send your order direct. Refuse substitutes or "Just as Good." Send for catalogue if you have not received it.

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Seed Co., Limited, Toronto.

"CANADA'S GREATEST SEED HOUSE."

GOSSIP.

The death is announced of Mr. Bronson C. Rumsey, Buffalo, N. Y., who for many years maintained a high-class herd of Bates-bred Shorthorn cattle at his Niagara stock farm at Buffalo, part of which is the ground on which the Pan-American Exhibition was held. Mr. Rumsey was wealthy, and continued to graze his Shorthorns for years on land worth \$2,000 an acre. The herd, in its palmy days, was for several years under the management of Mr. Wm. H. Gibson, now superintendent of Senator Drummond's Huntleywood Stock Farm, at Beaconsfield, Que. Mr. Rumsey continued breeding Shorthorns and Shropshires up to the time of his death at his farm of the old name at Lewiston, N. Y., and exhibited some of his cattle at the Pan-American.

At a sale of select Shorthorns, at Chicago, March 6th and 7th, contributed by ten prominent breeders, 90 head sold for an average of \$500. The highest price was \$1,500, for Imp. Spicy Clara, a roan yearling heifer, first-prize winner at the Chicago International, bought by Geo. Harding & Son, and Keshka, Wis. Imp. Minorca Maid, and bull calf, sold for \$1,100. The top price for a bull was \$1,000, for the red two-year-old, Robin Adair 151303, bred by C. C. Norton, Corning, Iowa, sired by Imp. Banker, sold by C. B. Dustin & Son, and bought by E. C. Sage, Denison, Iowa. British Glory (imp.), a roan yearling, by Pride of the Realm, sold for \$860, the highest for an imported bull, to S. E. Prather & Son, Springfield, Ill.

Spring Brook Stock Farm is situated in the County of Waterloo, one mile from Breslau station, on the main line of the G. T. R., and ten miles west of Guelph, and is owned by Mr. A. C. Hallman, who is somewhat extensively engaged in the breeding of Holstein cattle, Tamworth hogs, and B. P. Rock poultry. The Holsteins, which now number 30 head, belong to the well and favorably known Aggie, Netherland, Acma and Artis families, on which have been used such noted prizewinning bulls as Netherland Statesman's Cornelius 46, winner of medal and sweepstakes at Toronto; Royal Canadian Netherland 45, a son of the world-renowned Netherland Prince 716; Prairie Aaggie Prince 2, a bull that won first at Toronto and headed the bronze-medal herd in 1886; first and diploma at head of herd at Provincial at Guelph in 1887; and others equally good. The present stock bull is Judge Akkrum De Kol 3rd, Can. No. 25266, bred by Henry Stevens & Sons, Lacona, N. Y., sired by Judge Akkrum De Kol 20676, he by that great sire of producers, De Kol 2nd's Netherland, who sired such noted animals as Inka De Kol, whose record at two years old was 14 lbs. 11 ozs. butter in 7 days; Inka 8th record at four years 16 lbs. 5 ozs. in 7 days; Susie De Kol, record at five years 19 lbs. 13 ozs. in 7 days; May De Kol, record two years 10 lbs. 5 ozs. in 7 days; Pietertje Hengerveld's Lady De Kol, record two years 15 lbs. 13 ozs.; and many other good ones. The dam of Judge Akkrum De Kol was Moseita 22083, whose milk record as a two-year-old was 58 lbs. a day, which tested 3.5 of butter-fat. She is a half-sister to Netherland Hengerveld, whose butter record was 26 lbs. in 7 days. Her dam was Kekke 2nd's Pietertje 24064, whose milk record as a two-year-old was 50 lbs. a day on winter feed. This bull is a massive, well-developed animal, weighing over a ton, and is exceptionally evenly built, being low down and smooth to a turn. As a sire, the young stuff in the stables prove his worth, being, without an exception, built on the true dairy lines, showing a splendid width and depth of hind quarter, with a beautiful fawn-like head and neck, and if there is anything in breeding to produce producers, the bull should certainly be the sire of some good ones. His lieutenant in service is Sir Paul Albino De Kol 2154, sired by Homestead Albino De Kol, and out of Pietertje Queen, by Dora Betts 3rd's Pietertje Netherland, a straight De Kol-bred bull. This is one of the coming show bulls, it being impossible to fault him. Among the many dams in the herd is the cow, Queen Hengerveld De Kol 40835, bred by H. Stevens & Son, a granddaughter of De Kol 2nd, who was without doubt the greatest butter-producer of the breed that ever lived, having a record of 33 lbs. in 7 days; at 11 years of age she made 26 lbs. in 7 days. There is a bull calf and a year-old heifer out of this cow in the herd at present. Space forbids us mentioning the many other good ones in the herd, suffice it to say this herd, individually and collectively, will stand comparison with any herd in the country. There are animals of both sexes and all ages for sale. The Tamworths number about 60 head, imported and home-bred, of both sexes and all ages. The breeding sows were selected for their perfect bacon conformation, and are certainly a choice lot. There are ten brood sows, some of them imported, the balance home-bred, and among them are several prize animals at the leading shows. The imported boar, British King, is a first-prize winner at Toronto, and is leaving his progeny living images of his own perfect build. Mr. Hallman reports sales in both Holsteins and Tamworths unprecedented; in fact, he cannot supply the demand for cattle. In poultry, nothing but B. P. Rocks are kept, and new blood is infused every year, purchased from the best possible pens on the continent.

A Chain is no Stronger than its Weakest Link and a Wire Fence is no Stronger than its Uprights.



No one should expect a fence to hold up of itself between the posts.

The Frost upright wires are large and strong. The Frost Lock holds them in place and each support its own share of the weight. Light tie wires give no support. Bending to tie weakens them and they are apt to break when the strain is severe. Frost Fence never breaks.

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THIS CUT ILLUSTRATES THE ONLY "Hinge" Stay Fence

It will not sag, and is cheap, strong and durable. Write for circular and prices. Good Agents Wanted in every locality, to whom we guarantee good returns.

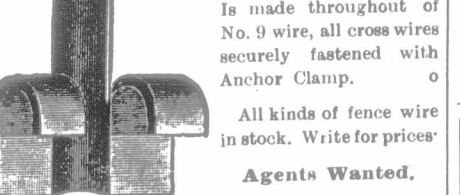


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FOUR PASSENGER SERVICES: Montreal to Liverpool, Portland to Liverpool, Boston to Liverpool, Boston to Mediterranean. These services are maintained by large and fast steamers with midship saloons, electric lights and every convenience to make the voyage enjoyable. Rates of passage are very moderate, and we would ask intending travellers to apply for all information to a local agent of the company, or to RICHARDS, MILLS & CO., 77 STATE ST., BOSTON. 69 DEARBORN ST., CHICAGO. DAVID TORRANCE & CO., 17 ST. SACRAMENT ST., MONTREAL. 10 COMMERCIAL ST., PORTLAND.

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ESPLEN, FRAME & CO., MANUFACTURERS, - STRATFORD.

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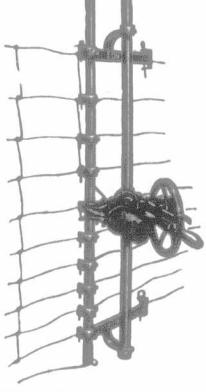
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MAKE AND SAVE MORE MONEY THAN ANY OTHER IMPLEMENT ON THE FARM.

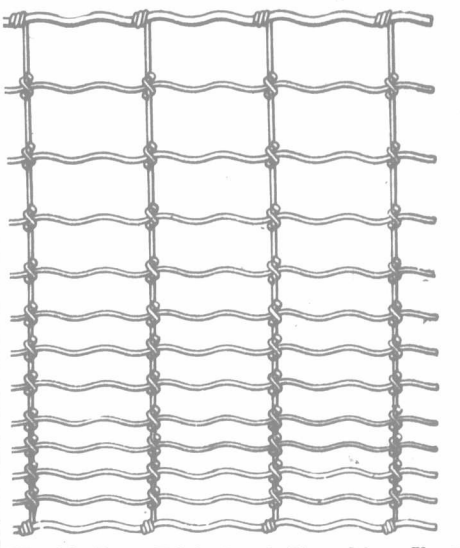


They build 40 to 60 rods per day. The same weight and quality of fence costs half the money, and is worth about 25 per cent. to 50 per cent. more for being built on the ground.

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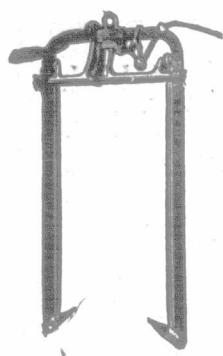
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Would You Think of Threshing Your Wheat by Hand? No. Then why make fence by hand. We can do the work much cheaper by machinery. Buy a fence all ready to staple to your posts.

HARD WIRE CROSS BAR. H. R. LAMB, LONDON, ONT.



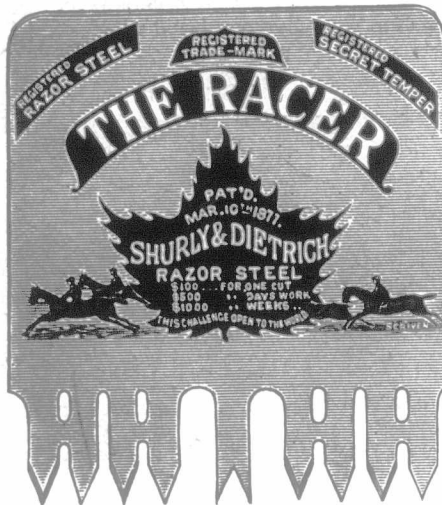
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FOR ROUND IRON, WOOD, OR ANGLE STEEL TRACKS,

Have now become a standard of excellence with the farmers of Canada and the United States. At the World's Fair, Chicago, 1893, the only medal and diploma given on hay carriers, forks and slings was awarded to us on these implements. Following is a copy of the judges' award: AWARD.—"For open trip hook to receive the sling; automatic clutch, adjustable for size of load desired; ingenious design of stop-block, which enables perfect control of carriage; no springs required for locking car, which has motion in all directions; compact form of fork, which can be tripped in any position; the car is reversible and of double action; for novelty, ingenuity and usefulness, excellence of material and construction." Correspondence solicited. Manufactured by

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The Razor Steel, Secret Temper, Cross-cut Saw.



WE take pleasure in offering to the public a saw manufactured of the finest quality of steel, and a temper which toughens and refines the steel, gives a keener cutting edge and holds it longer than by any process known. A saw to cut fast "must hold a keen cutting edge."

This secret process of temper is known and used only by ourselves. These Saws are elliptic ground thin back, requiring less set than Saws now made perfect taper from tooth to back.

Now, we ask you, when you go to buy a Saw, to ask for the Maple Leaf, Razor Steel, Secret Temper Saw, and if you are told that some other Saw is as good, ask your merchant to let you take them both home, and try them, and keep the one you like best.

Silver steel is no longer a guarantee of quality, as some of the poorest steel made is now branded silver steel. We have the sole right for the "Razor Steel" brand.

It does not pay to buy a saw for less, and lose 25 cents per day in labor. Your saw must hold a keen edge to do a large day's work control of thousands of these Saws are shipped to the United States and sold at a higher price than the best American Saws.

MANUFACTURED ONLY BY
SHURLY & DIETRICH,
Galt, Ontario.

NOTICES.

Note the advertisement of White Leghorn eggs, of Hartford and Royal strains, by J. E. Fussey, Melbourne, Ont.

BEEKEEPERS WHO WISH TO IMPROVE THEIR STOCK should read carefully the advertisement in this issue of Mr. H. F. Holterman, manager of the bee department of Bow Park Farm, Brantford, Ont., in which the advantages of introducing into the colonies queen bees of improved blood are set forth. It is claimed that blood tells in bee-breeding as well as in other stock. See the advertisement.

"CANADIAN PLANTS FOR CANADIAN PEOPLE," is the suggestive title of the floral catalogue of Messrs. Webster Bros., Hamilton, Ont., who are concentrating their attention upon ornamental plants for the house and garden. They offer few seeds and no fruit trees. Roses are the leading specialty, and it would appear that their wonderfully liberal special plant collections could not do otherwise than fulfill the purpose stated, making their plants known in every corner of Canada. Any orders placed with this firm will receive the best possible attention and be filled in a liberal manner.

THE ADVANTAGES OF LOW-DOWN WHEELS AND BROAD TIRES on the farm wagon are highly spoken of by those who have used them, saving as they do the high pitching and lifting required in loading the old-fashioned high-wheeled wagon. The wide tires render the draft on a team from 20 to 100 per cent. lighter, the wheels sinking less in the land. Their use also saves the fields from being cut into ruts, and the roads are improved rather than cut up and made uneven as they are by narrow tires. The low-down handy wagons and broad-tired steel wheels manufactured by the Electric Wheel Company, of Quincy, Ill., and advertised in our columns, appear to fill the bill admirably for a 20th century farm wagon. Their advertising watchword is that their wheels and wagons are "Built to Last." We might add also that "They have come to stay." Readers of the "Advocate" who are not fully acquainted with these goods would do well to write for a catalogue and learn more about their merits.

At the London Shire-horse sale, last month, 237 head sold for \$19,325, an average of \$388. The highest price was \$1,575, which was reached in two instances for stallions.

At the London Hackney Show, last month, the champion cup for best stallion was won by Sir Walter Gilbey's Royal Danegelt, first-prize winner in class for mature horses over 15 hands and not over 15.2, the reserve number being the same exhibitor's Bonny Danegelt, first in the four-year-old class over 14 hands. The champion cup for best mare went to Mr. Chas. E. Galbraith's Rosarene, who was first in class for four years old and over 11 hands. The same exhibitor's Rosadora was the reserve number. She was first in the class of mature mares over 15.2 hands.

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Weather-Proof. Water-Proof.
Rust-Proof.

For houses, barns, sheds, wagons, wind-mills, fences, agricultural implements of all kinds.

Every farmer can afford to keep all of his buildings and implements painted by using Zanzibar Paints.

Durable lustre and colors that never fade.

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Nothing as good.

Simple, durable, easy to turn and clean. Five different dairy sizes.

WRITE FOR CIRCULARS AND INFORMATION.

AGENTS WANTED.

C. RICHARDSON & CO.,
P. O. Box 1048, - - St. Mary's, Ont.

Messrs. Wilson & Cook, Brampton, Ont., have purchased from Dalgety Bros., Dundee, Scotland, and London, Ont., the imported Clydesdale stallion, King's Day, Vol. XXI, sired by the famous King's Knight 10071, a great winner in Scotland. As a two-year-old he was first at Aberdeen Spring Show, first at Udney and Inverurie, second at the Aberdeen Summer Show, and first at the Highland & Agricultural Society's Show at Perth. He being got by the renowned Mains of Airies 10379, and out of Darling V., by Strathleven. Mains of Airies was by the great Prince of Wales 673, and his dam by the equally famous Darnley 222. King's Day is a beautiful dark brown colt, with the best of legs and feet, and will be three years old this spring.

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Largest Makers of Pianos and Organs in Canada.

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NO NEED TO BACK UP TO START.
GO AHEAD AND CUTTING BEGINS AT ONCE.

HERE ARE SOME OF THE REASONS WHY OUR OLD CUSTOMERS BELIEVE IN THE NEW NO. 8:

1. Roller and Ball Bearings.
2. Powerful Internal Gear.
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Do You Want a New Mower?

If you do you require a good one.
You will get good value in the New No. 8.
And if you don't want a Mower, we can do you good in some other way.
How about a Cultivator, a Rake or a Binder?

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A heavy stay in one piece. A perfect lock to hold. Complete in the roll. Made from hard spring wire throughout. Will stand up and do business when other styles fail.

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